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THE PACIFIC RURAL PRESS

SAN FRANCISCO Saturday, July 3, 1915 LOS ANGELES

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California's Jersey Isle.

[Written for Pacific Rural Press.]

A prosperous farmer is usually a contented farmer and those two words adequately describe the farmer in that portion of Humboldt county surrounding Ferndale, in so far as the writer was able to ascertain after numerous interviews with all classes.

When you consider that this contented feeling exists in face of the fact that conservative estimates place the tenant farmer of this section as 90 per cent of the whole, and that these tenants pay $15 to $25 an acre rent per annum, according to the soil and its location, you have just reason to ask, "What do they do and how do they do it?"





Two Characteristic Views of Humboldt Agriculture, Showing Rich Pastures of Clover and Rye Grass in Upper and Corral Milking in Lower. Timber Records Development of Dairying in the County.

Five minutes walk in any direction from Ferndale would answer your question as to "What they do." Everywhere you see Jersey cows and green fields of endless varieties of forage and root crops. We say Jersey cows advisedly, for while all breeds will be seen, 75 per cent of the stock is distinctly Jersey, the result of of continual breeding to purebred Jersey bulls and the selection of heifers from the high-producing cows for many years.

At one time the cows in this county were a mixture of pretty much every breed, Durhams predominating as the early dairymen made their start with them; and the result of careful breeding on their part is still apparent.

Cow Testing and Purebred Sires.—Since the advent of the cow testing association, six years ago, however, the dairymen have based their fortunes on the Jersey; and with one exception those we talked with expect to continue with the breed which has done so much for them. In that particular instance the butterfat average for the herd of 50 cows was between 220 and 225 pounds a year when the testing association was formed six years ago. The increase since then has been gradual each year, as a result of Jersey sires. Last year his herd average was 277 pounds of fat per cow. Notwithstanding an increase of over 50 pounds per cow, this man is changing this year to a sire of another breed. His neighbors think him foolish.

It seemed inevitable that as often as we asked the method of breeding for higher production, just so often we were informed that, "I use a registered sire, test my cows in the association, weed out any poor producers, and substitute in their places the heifer calves out of my highest-producing cows."

This is the doctrine so often preached, but so seldom practiced, and it is a revelation to find dairymen so unanimous in their convictions that they not only preach but also practice. We might add that the dairymen who gave us these answers were visited promiscuously, so we believe they are characteristic of the section, although we were informed that there are some who still follow the old methods of breeding to scrub bulls.

Various reasons are advanced for the progressive spirit which prevails as to breeding; high rentals and continued dairying being the most frequent answer to the question, "How did it start?".

One Man "Bought a Bull"—It is pointed out that some 30 or 35 years ago, a dairyman in the Loleta district (a section adjoining the Ferndale section), purchased a purebred Jersey bull and gradually built up the production of his herd. At that time the native cattle crossed with Durhams prevailed on other dairies; but in the years that followed the Jersey herd proved the more economical producer and the increase in Jerseys has been rapid, especially since the cow testing association was started. It is well to mention that the offspring from that original foundation have been held intact on the same ranch; and the herd, now numbering close to 100, are admitted to be one of the finest, if not the finest, herd in the county.

Co-operation Largely Responsible.—A further reason advanced by one of the leading dairymen for the general improvement of condition, and one which probably has been a controlling factor, is the proximity of the dairies and their past seclusion from other counties. "There has been a closer union of interests here because we have learned from years of personal friendship with one another that to do things together is better than doing them separately. Our Dairymen's Association and Cow Testing Association have done much toward advancing everyone's welfare and have served to bring us into closer relationship with one another to the end that any and all beneficial factors spread more rapidly than elsewhere." Neighborly interest promotes all kinds of good results. Cooperation is without doubt the final analysis of success in this far-away country and being close to one another's business and personal achievements or discouragements has led to a broader view of co-operative endeavor than is common.

A Natural Grass Country.—But why, you may ask, does dairying supersede all other kinds of farming? One day's stay would be sufficient to answer that question. It is a natural grass country. Pastures of white clover and Italian rye grass, 20 years old, are not the exception; and they remain green practically the year through. The climate is naturally cool and damp, the year's rainfall ex

(Continued on page 12.)

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CALIFORNIA WEATHER RECORD.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at 5 p. m., June 29, 1915.

Stations.	Rainfall Date			Temperature Date Past Week	
	Past Week	Seasonal to Date	Normal to Date	Max'm	Min'm
Eureka	.00	42.40	46.04	64°	48
Red Bluff	.00	34.79	25.03	100	58
Sacramento	.00	17.21	20.09	96	50
S. Francisco	.00	27.41	22.27	68	50
San Jose	.00	22.71	16.79	90	44
Fresno	.00	10.92	9.68	102	50
Ind'p'd'nce	.00	3.80	9.53	94	54
S. L. Obispo	.00	28.17	20.51	80	46
L. Angeles	.00	17.04	15.64	78	56
San Diego	.00	14.41	10.01	70	58

The Week.

We alluded last week to the fact that some of our readers believed that state regulation of produce marketing is more important to the producer than rural credit provisions because when a man can market fairly he will not need credit, etc. We dissent from that view. It belongs to that group of errors which are sometimes called "half-truths," which some wise man has declared to be more dangerous than integral lies. There cannot be any movement of produce beyond that which is covered by individual barter or sale, which does not involve credit in some form and to some extent. It is of course conceivable that every producer should be so forehanded and full-pocketed that he can make the crop, insure the crop, gather the crop and transport the crop to a sale-point, putting only his own money into these costly operations; but though this is theoretically conceivable and is actually realized in some cases, it has never been a ruling condition among men. Ever since Cain grew garden-truck and Abel grew lambs and quarreled over the relative credit which each should receive, credit operations have been essential to the feeding of a world—for credit in its essence means simply, faith, trust, confidence in the character of a man, in the responsibility of his operations, and in the intrinsic value of his products. Of course there is a large amount of credit involved in the successful operations of a man who fully finances himself—but we do not pursue that point. The plainer and more concrete fact is that, when you get beyond individual instances which may be otherwise, there can be no great marketing which does not involve credit, and one of the leading achievements in State marketing, if it ever makes any achievements at all, will be the provision or regulation of credit, so that the wages of credit, commonly called "interest," shall be fair to the producer who is forced to employ it. Hitherto these wages of credit have been unfair, even to the point of extortion, and the service has been sometimes withheld or operated to the point of robbing the producer of his equity in the marketable commodity which he has produced. The whole system of advances upon crops has been and still is more or less of this character, even though it often appears beneficent and is really dispensed in this spirit, because to refuse it would impose hardship, perhap ruin. Still, though often given in the kindest spirit and though its morality is assured by the laws of trade, advances are too often cruel exactions in the guise of blessings.

Whence Should Come Advances on Crops?

We will not argue this matter theoretically except to say that an advance should not come from a dealer. It obviously gives inequitable advantage to the buyer in the transactions which follow. It is not always extortionately used; in fact, it is often, we doubt not, administered in a generous, manly and even friendly fashion, but it is, nevertheless, an economic sin that a crop should be handicapped in its race for market value by an obligation held upon it by a certain buyer who has made an advance. Advances should come from those who deal in money and have no object whatever in controlling produce sales. Their business should be to guard their severity and to get the wages for their money. They should not force sales for any speculative motive, nor should they help other speculators to realize from squeezes or other gambling devices. It is idle to argue these points theoretically because the things which we have designated as unworthy have been done since the earliest Pharoah cornered wheat, and since the Chaldean bankers made advances to help speculators get crops. It is a concrete and very important fact, however, that the last few decades have demonstrated in European experience that there are ways in which credit can be secured for cropping and marketing purposes at low rates of interest and wholly apart from dealers' motives and temptations. It is therefore, idle to argue that such a thing can or cannot be done: it is simply a fact accomplished, and a method in operation, in all the more progressive European countries. The advance of money for cropping and marketing purposes in these countries comes now from three sources: first, government funds, administered through special banks created wholly or in part for that purpose; second, rural credit banks and societies, organized, regulated and often underwritten by government authority; third, private or old-line banks, which cried ruin when their historic ways of doing business were interfered with, but have found since that it is very comfortable and profitable to do the new kind of business at half the cost of the old. The most significant fact is that there is plenty of money for loans to farmers properly organized for collective security; that advances from storekeepers and produce buyers have gone out of use; that the money advanced by the government is only a fraction of the amount currently used in short-time personal loans, and that produce sale and distribution, which are now largely effected by growers' organizations under government regulation and supervision, are inseparable from the rural credit systems, without which producers would never have been made free to practice fair marketing. Therefore, we do not agree that a system of market regulation is the only thing or the most important thing to secure rural prosperity. The cornerstone of fairer marketing is fairer credit, divorced from extortion and from buyers' interests.

What the State Can Do?

Some of the smart Alexanders of the commercially endowed press are affecting to laugh at the McPherson bill, because they say it has only a possible $25,000 fund to finance State marketing. They, of course, do not desire to know that the figure stated is a revolving fund—or rather, only a nucleus of one, and that will be plenty to begin with, and there will be plenty more coming if the start made seems promising to the next Legislature. It is not now a question of money: it is a question of how those who wish to introduce into this State modern methods of produce financing and trade, take hold of the proposition. As we stated last week, they can make nothing or they can make everything of it. It is ridiculous to say there is not money enough. There is so much money idle in this State at this moment that city bankers do not know what to do with it. They will not loan it on warehouse certificates because that excellent system of loans, which was legalized and practiced during our grain-greatness of thirty years ago, has fallen into innocuous desuetude. Now they benignly refuse to lend it because they do not desire to encourage farmers to speculate! Great Scott, how noble! But they will lend it to dealers to dole out in their crop-controlling speculations. They are just in the state of blindness that European money-magnates were before public interest compelled the governments to demonstrate that a nation's food supply must be pushed into fair finance and distribution. They will awaken later and will roll their millions into safe and honorable uses just as their European contemporaries have done. In this matter of financing farming, this great United States of ours is now the most provincial nation on the face of the earth, but it will quickly become cosmopolitan if the people will get together and put over a few things which are essential to such a condition.

We are not arguing now that the State should do this or that. We are not yet converted to Nationalism, Socialism, nor Paternalism. We believe in Co-operating Individualism to Get a Fair Deal for Farming! Probably all the State needs to do is to clear the track for that. Probably the chief obstacle to that at the present time is the special privileges which have come to belong to Finance and Trade by the failure to exalt other points of view which they themselves have allowed to lie unrecognized and unprovided for. Just see, for instance, how easily an old special privilege can be swept away in the public interest! It is announced this week from Sacramento that: "For the first time in the history of the State a rate of three per cent on State deposits has been offered by banks, according to State Treasurer Richardson. The State is at present receiving 2½ per cent. There is approximately $1,000,000 to be let out for a term of one year at the three per cent rate." If we are not mistaken it is not long since the banks had this money at two per cent; then 2½ per

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cent, and now three per cent. Why? Simply because the State Treasurer has called the old bluff that the money was "on call," and therefore not worth much, and for the same reason not available to promote the State's industries and interests. Like a good many banking dreams the money was theoretically "on call," but actually in for years, and now the State government is bright enough to get nearer what its money is worth by using a few words which have not changed the facts at all. And what does this mean? It means, for one thing, that the surplus money which the State has accumulated for its own security and purposes by taxation of things largely agricultural, either directly or indirectly, is still to go into institutions which are already full of idle money because they have no adequate notion of the security and desirability of industries which could use this money in producing wealth. Such money is used in nearly all modern countries for wise and carefully guarded industrial production and distribution from original sources. We use it in turning over things—in ways too well known to need description, and are simply scared stiff if any one proposes to use State money in any really useful and progressive way.

Intensive Dairying.

These few things we have been trying to say about financial conditions and attitudes have direct bearings upon the development and prosperity of every kind of agriculture which is pursued in this State. Perhaps no more pertinent application can be made than to consider this discussion in connection with the excellent sketch of intensive dairying in Humboldt county which one of our assistants presents on the first page of this issue. What would it mean in State development if all counties suitable were advanced in dairy production as parts of Humboldt county are? Humboldt county has some unique climatic conditions and advantages, it is true, and Humboldt has been advancing slowly ever since early days. But these are not essentials to development, for of the three greatest counties of the State, Humboldt county is on the north coast, Stanislaus is in the central valley, and Imperial, the youngest county in the State, is in the extreme southeast—while the outer points of three counties named are something like 800 miles distant from each other in an air line. Geographically, the dairy is the pervading industry of California, but in considerable areas it is much more thinly spread than the natural adaptations warrant. In other words, it would be of tremendous advantage to the State if modern dairying were pursued far more intensively, with cows better bred and better fed—in each locality according to the local conditions of forage, growth, etc. But modern dairying, with good cows and buildings, good forage crops and outfits for their culture, is a business requiring considerable investment and some working capital. Other things being equal, its profitability will be directly in proportion to the rate at which capital can be secured. Under present credit conditions it is difficult to get money for an outfit of cows except at exorbitant rates and on terms which leave a man little to buy sires for the improvement of the offspring. These things are directly against the development of the State and of individual prosperity. They should receive careful consideration, not only from those who consider themselves broadly as State builders, but by those who are working for local development. There are ways now in operation in the world by which dairy opportunities inferior to those which we have abundantly in California have been developed into national industries, and the result has been attained through association of rural credit with co-operative marketing enterprise. Now that these things hold a prominent place in the public mind, and popular interest seems so widely to approve their realization for the common good, it is surely the farmer's duty to study propositions carefully, and act along the line of his convictions for the advancement of his industry.

Queries and Replies.

Querists must give name and address.

Inoculate Bur Clover.

To the Editor: Is it profitable to inoculate bur clover seed before planting, to increase its yield? I aim to reseed a worn-out pasture that has never been plowed and has no irrigation. The land is red and bakes as hard as an ordinary brick, and produces nothing but a light crop of wild oats and foxtail.—R. E. M., Woodlake.

On land that has never been cropped and is so poor that it will not raise good crops of wild oats or foxtail, you will have poor success the first year even with bur clover. If you plant bur clover, be sure to work up the soil deeply and finely; and then, because none of it has been growing on the land, it will be practically necessary to inoculate with bacteria, most conveniently applied in the commercial forms. Where the ground has baked so hard, bacterial life has probably been largely destroyed. Mixing the burs with horse manure was found to produce good germination on a Placer county fruit farm. It would be well to fertilize the ground with manure.

Making a Virtue of Bermuda.

To the Editor: Can you tell me of a good method for eradicating "Bermuda" grass of a long-standing growth from moist river bottom land? Do you think Egyptian corn is a profitable crop to sow on rich bottom lands?—F. M. C., Oakdale.

We know no way to get Bermuda out of such land, except by a long process of fallowing and weekly under-cutting to prevent the Bermuda from ever seeing the light. But you can work in other plants to fight Bermuda and make good forage or pasturage with them. If the water is not too near the surface, alfalfa will fight it with chance of keeping a good hold if started in February when the Bermuda is dormant. If water is too near the surface, red clover will work instead of alfalfa. Sorghums will all be glad to grow on rich bottom land of course, but on such land Indian corn would probably be more profitable. Neither would, however, do much on Bermuda sod until after the killing process.

Trees Bearing Too Young.

To the Editor: The article, "Making Apple Trees Bear Young," on page 628 in Pacific Rural Press of May 29th, interests me very much. I have four apple trees in their second summer and they are in blossom and two of them are bearing. One apple tree bore one apple last fall. All my trees were pruned last March. Ought I prune them now, as per illustration on page 628? I also have two Early Crawford peach trees and two almond trees and two plum trees, all bearing. Would it be best to cut off the fruit and nuts, and should these trees be pruned now again? We have one Navel orange tree in blossom and with many little oranges. This same tree, now in its second summer, bore seven big oranges last winter. Would it be best to take some of the little oranges off now; if so, what per cent? I am treating my blackberry vines as per article in the Press of May 22nd. Should Himalaya berry vines be cut back in order to grow laterals? Last summer the canes grew from 15 to 20 feet, with but very few laterals and only a few berries here and there. I cut back a few canes the day I read the berry article, and now it is full of laterals, whereas before it had only leaves. Last year I planted an English walnut tree and it rotted at the roots last month. Last March I planted another one and it now looks the same as when planted, except it is getting dry and black at the top. I think it is dying at the top. Should I cut it back down to where it is still green?—P. S. H., San Ysidro.

Summer pruning of young trees can only be commended for those which are making very strong wood growth and can stand checking and forcing of new laterals. The precocious bearing of your trees shows that they are of too weak growth and have not sap pressure enough to make strong young wood. They probably do not get water enough to be strong and healthy. Do not summer prune at all, but irrigate and cultivate well and see if you cannot make them grow more strongly. Unless you are running a museum of early bearing, take off the fruit and let the force of the tree go into wood until a year or two older. Himalayas do not need cutting back except for convenience. The long canes make laterals the second year and these bear fruit several years. They are not like other blackberries, which need renewal of wood every year. You will probably not get fruit any sooner by your cutting back, but it may be more conveniently placed. If you wish the greatest amount of fruit, let the Himalayas make a good run and then chase the fruit around the ranch.

Wheat in Upper San Joaquin.

To the Editor: What variety of wheat would you advise planting on heavy red soil eight feet to water. It has been sheep-pastured two years. Should it be summer fallowed? Is wheat successfully treated for smut and rust? If so, how? Is the future outlook of wheat good?—R. G., Sanger.

We should grow Sonora wheat, which constitutes something like three-quarters of the wheat crop of your district, and has for years demonstrated particular adaptation to your conditions. It is not necessary to undertake the treatment of the seed for rust for such treatment is not likely to effect anything if rusting conditions prevail in the spring. These are not usually to be expected in your district, therefore Sonora, though liable to rust, is safe in your region. The seed should be dipped to kill smut spores. Dip in a solution of bluestone, one pound to four gallons of water. Be sure the seed is thoroughly wetted, and then dry as quickly as possible by exposure to the air. We should disk the land to a loose surface as soon as convenient and surface work it later, if weeds start during the summer. If weeds do not start until the early rains come, kill them out once or twice to clean the land before sowing the wheat, which should be done in November or December, according as moisture conditions are right for a sure start. We consider the outlook for wheat good in this State. We are only growing a part of the amount we need for State consumption.

Home Canning: Fruits and Vegetables---VII

[Written for Pacific Rural Press by Prof. W. V. Cruess.]

Peaches. — More peaches are canned than any other fruit. They should be ripe but not soft. Commercially the fruit is graded into five grades or more; in home canning three grades should be sufficient. These could be Extras (the largest and most perfect fruit), Standards (fruit of medium size and good quality), and a Pie Grade (consisting of blemished, small and soft fruit).

Nearly all commercially canned peaches in California are peeled by the lye process. The fruit in this method is first cut in half, pitted, and run through boiling lye solution which loosens the skin. The skin and excess lye are completely washed off the fruit by thorough spraying and washing with cold water. The strength of the lye is about 10 per cent. The lye strength and time will vary with the ripeness of the fruit. The flavor of the fruit does not appear to be noticeably injured by this method and it is just as wholesome as hand-peeled fruit. If large amounts of peaches are to be canned, this method is recommended; if only small or moderate amounts are to be canned, they may be peeled by hand. If the lye process is used, great care must be taken to wash out all the lye or the fruit will turn black in the can.

Peaches are peeled by hand with a specially made knife equipped with curved blade and guard to insure uniform depth of peeling. The hand-peeled peaches are then pitted. The pits of freestone peaches are easily removed, but clingstone pits require a special instrument known as a "pitting spoon" to make a neat-appearing product. Any hardware store or canning supply company can furnish or easily obtain the peeling knife and pitting spoon.

Number 2½ cans are most commonly used for the peaches canned in syrup, while the gallon or No. 8 or No. 10 cans are used for the Pie Grade. All styles of jars are also suitable. If jars are used, the fruit may be built up in neat overlapping tiers; this gives a very attractive appearance and is to be preferred to haphazard filling of the jar. The same applies to apricots. The fruit is then covered with syrup.

Making Syrups. — The highest grade of peaches is given a syrup varying from fifty to sixty per cent sugar; usually the high grade sliced fruit is put in a sixty per cent syrup and the highest grade halves in a fifty per cent syrup. This would be 50 and 60 Brix, or 27.7° and 33° Baume, respectively. The remaining grades receive syrups decreasing in 10 per cent intervals between grades to Pie Fruit, which is put up in water. For home-canned fruit, the Extra grade would receive a fifty per cent syrup; the Standard, a 30 per cent syrup; and the Pie Stock, plain water. 30 per cent equals 30° Brix and 16.8° Baume. To make 100 lbs. syrup of "a" per cent strength take "a" lbs. sugar and (100—a) lbs. water. For example, to make 30 per cent syrup take 30 lbs. sugar and 100—30 (or 70) lbs. water. Dissolve sugar and resulting syrup will contain exactly 30 per cent sugar. 1 gallon of water equals 8.34 lbs. For practical purposes, one pint of water equals one pound.

Cooking Fruit.—The cans or jars are treated as described for cherries. The cans may be exhausted six minutes at 212°F. before tipping. They should be cooked long enough to cook the fruit through. The time necessary will vary from 10 to 25 minutes at 212° F. for No. 2½ cans, according to variety and texture of fruit. Freestones take less time than clings. Gallon cans will require about a 30-minute cook. The fruit in jars is cooked as described for cherries. The fruit in the jars can be tested during cooking and removed from the cooker when properly cooked. Peaches are easily sterilized, and when cooked through either in cans or jars at 212°F. will keep indefinitely, if micro-organisms are excluded thereafter.

Apricots. — Apricots receive the same general treatment as peaches with the exception that they are not usually peeled; if peeling is done, it is carried out ordinarily in a lye peeler. The fruit is graded for size and quality into the same number of grades as peaches. It is thoroughly washed, pitted, filled into cans, or jars, covered with syrup, and processed 212°F. in the same way as peaches.

The usual process for apricots in No. 2½ cans is, 10 minutes for Moorpark and 8 minutes for Blenheim at 212° F. for fruit of medium ripeness; soft fruit requires about 2 minutes less and hard fruit several minutes more.

Owing to the high acidity of the fruit, only enamel-lined cans and glass jars should be used.

Pears.—The Bartlett is far superior to the hard varieties, such as the Kiefer for canning.

The pears should be ripe, but firm. They are peeled by hand, cut in half, and the cores are removed with a coring spoon. The fruit should be graded into about two sizes and the blemished fruit canned separately as pie fruit. The peeled pears oxidize rapidly in the air and turn brown. This brown color should be washed off in cold water as the fruit is put into the can or it may persist after cooking. If the peeled fruit is kept under water until wanted, it will not color nearly so rapidly.

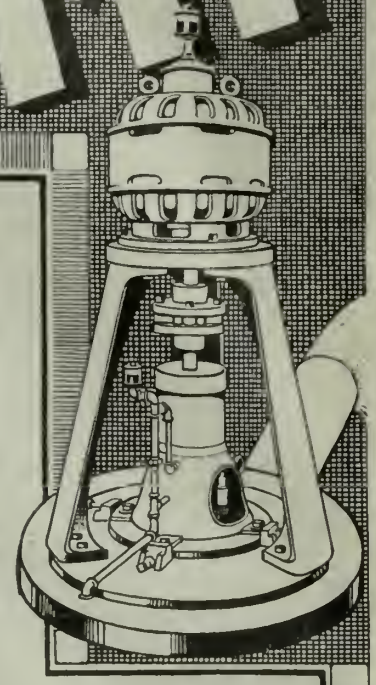
The highest grade of pears should be given a 40 per cent (40° Brix or 22.3° Baume) syrup. The second grade would receive a 30 per cent syrup, and the third, or pie grade, plain water.

Pears in No. 2½ cans are exhausted 7 minutes and are cooked after tipping 16 to 35 minutes at 212°F. If the fruit is hard, the longer time may be necessary; if medium softness, 16 minutes will be sufficient.

Blackberries.—These may be handled practically in the same way as strawberries. The Mammoth will not require quite so heavy syrup as strawberries, while Himalayas require a great deal of sugar to counteract their high acid. Enamel lined cans or glass jars only should be used because of injury to color from tin.

Raspberries may be treated practically in the same way as strawberries with good results, although the syrup in most cases will be of lower

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sugar content than for strawberries

Plums.—Green Gage, Washington, Egg, and Lombard plums are most commonly used for canning. The fruit is graded for size and quality, washed and stemmed, but not pitted. The highest grade is given a 50 per cent (50° Brix or 27.7° Baume) syrup. If three grades are made, the syrups would be 50 per cent, 30 per cent, and water, respectively. In No. 2½ cans, the fruit is given an exhaust at 212°F. for 6 minutes, tipped, and processed; that is, sterilized for 14 to 17 minutes at 212° F., the time varying with the texture of the fruit. Enamel cans or jars should be used because of the high acid.

Weather May Reduce Walnuts.

[Written for Pacific Rural Press by C. Thorpe, Manager California Walnut Growers' Association.]

It is of course too early as yet to form a conclusive opinion as to the probable outturn of walnuts in California for the 1915 season. Therefore any statements made herein depend upon climatic and other conditions continuing favorable from now until harvest time. It should be distinctly borne in mind that walnuts are a product of Nature absolutely; and the development of the crop is highly dependent upon climatic conditions and also upon the degree with which bacterial and fungus diseases may develop. Unfavorable weather conditions for a two or three days' period may curtail the expected crop as much as 30 per cent. Conditions at present, however, are favorable for a normal crop and a fairly early harvest. It should be observed here that we have not had a normal production since the season of 1912. Up to the middle of September, 1913, prospects were promising for a record breaking crop of about 13,500 tons for that year. Two excessive hot days about the middle of September damaged the crop and the trees so severely that the output was curtailed fully 20 per cent, shipments reaching only a little over 11,000 tons for that season; and the quality of the deliveries was greatly deteriorated. The heat in this short period was so severe as to kill much of the fruit wood on the trees, so that the 1914 setting was very light also, the crop for that season being less than 9,000 tons for the state, the lightest production for many seasons.

Bearing Acreage Increased.—Since the occurrence of this freakish weather two years ago the bearing acreage of walnuts in California has been gradually increasing, this increase in bearing trees now being estimated at 17 per cent more than in 1912, the year of the last normal crop. There is considerable variance in opinions regarding the extent of the crop this season. I feel that it is safe, however, to state that the production can hardly be expected to exceed 13,000 tons provided conditions remain favorable. Total shipments below this figure would not be surprising. If the crop develops to this maximum figure it will be the largest crop by 5 per cent that the State has ever produced. Of the total California production the California Walnut Growers' Association expects to market not less than 70 per cent.

DRIED PEACHES 13 CENTS.

[Written for Pacific Rural Press.]

At the Morgan Hill Farmer's Union picnic recently a youthful farmer, George Brooks, told us how his folks sold peeled dried peaches at 16 cents per pound, and how they handled them.

A friend in Philadelphia had worked in a grocery store and asked Mr. Brooks if he could furnish some dried peaches direct from the farm. The Philadelphia grocer offered 16 cents a pound for the peeled peaches. Eleven hundred pounds out of the crop from over 900 trees were sold at this rate last year, Mr. Brooks paying the 3 cents per pound freight, and a contract is signed for about a ton of peeled peaches to be delivered this year.

Mr. Brooks made more from the 1100 pounds than from all the rest, which was sold at the farm at 3½ cents.

But Sales Manager G. A. Bolster of the California Cured Fruit Exchange wishes to emphasize the fact that in the ordinary channels of trade, peeled peaches cannot be sold at a price which will cover the extra cost of production. The Exchange still has most of its small quantity of peeled peaches on hand.

As Mr. Brooks handles the drying, it would not seem to increase the cost of production so materially as it increases the price to him when he sells direct to the retailer.

The fruit for drying peeled must not be too ripe or soft, yet must be ripe enough to take the sulphur well. It is picked and cut the same as any other dried peaches, and thoroughly sulphured, at least three hours. As soon as the fruit comes out of the sulphur house, each half peach is picked up in the left hand right side up so as not to spill the juice, and with the fingers of the right hand, the skin is slipped off and the peaches are set down on the tray again. Only clean white pine trays are used; otherwise, the fruit would be stained or turned black, especially on redwood. On about the fourth day in the sun, that is, after the juice has dried into the peaches, they are turned upside down by hand and no trouble is experienced with their sticking to the trays. As soon as they are dry enough so that a double handful squeezed in the hands will fall apart when the hands are opened up, they are ready for shipment.

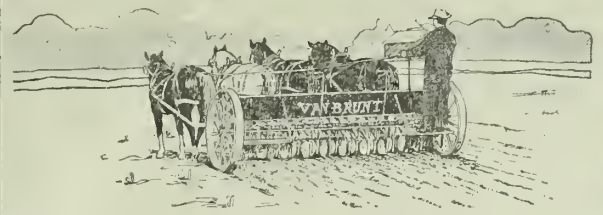
Mr. Brooks uses boxes which hold 100 pounds, strongly made so that they do not break in transit. Heavy wrapping paper lines the boxes, and the peaches are packed without any resteaming or resulphuring.

A source of loss in this system is the fact that peeled peaches dry away to 5 or 6 to 1, while the unpealed ones 4 or 5 to 1.

This would seem to be a promising field for those who have peaches that can be dried, provided they can establish eastern connections and sell direct to the retailers or to the consumers.

Bean thrips infesting beans and alfalfa in Los Angeles county are held in subjection by sulphuring. In Shasta county, the same insects on all garden vegetables are controlled with tobacco spray, while in Tehama county both oil emulsion and tobacco sprays are used.

John Deere Implements



Van Brunt Single Disc Grain Drills

Plant any small grain, from alfalfa to bearded oats, corn and peas, even in trash, gumbo or mud.

Van Brunt Drills never choke. Adjustable gate force feed compels an even, continuous flow through each seed tube. Amount sown regulated simply by moving a lever.

Seed is planted at even depth. Individually adjustable springs enable you to give each furrow opener the required pressure for hard or soft ground to make furrows of even depth, and the seed is placed at the bottom of the furrows. All of the grain is up and ready for harvest at the same time.

Van Brunt Drills are light weight, light draft, well balanced and strong. Frame is rigid; hopper does not sag; the gear drive is positive (each wheel drives half the feeds) and the disc bearings are guaranteed to last lifetime of drill. Spring steel scrapers keep the discs clean.

Write us for free booklet, "John Deere-Van Brunt Single Disc Drills." It tells why the Van Brunt plants seed at bottom of furrows of uniform depth, and what this means to you.



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The Press with the powerful eccentric gears. Gears are mounted off center, giving more power on the working stroke, a quicker return of plunger and very desirable action of the self-feed—the three points of prime importance.

Easily bales 2 to 4 tons per hour without any jar or shock.

Powerful self-feed arm and plunger, improved form of drop blocker and automatic tucker insure well shaped, firmly packed, smooth end bales,—the kind that bring the highest price.

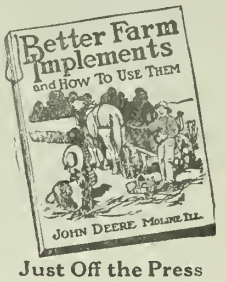
Entire outfit is always ready for work. No lining up of engine required.

Wide track front axles with a fifth wheel is why this press stands up so well and is so easily moved.

Made in three sizes for 14x18, 16x18 and 18x22" bales.

Write if interested in Hay Press, Loader, Stacker, Side Delivery Rake or other hay tools—and ask for free book, "Better Hay—How to Make and Market It".

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Illustrates and describes the most complete line of farm implements. Tells how to adjust and use farm tools under varying conditions. It is a practical encyclopedia of farm implements worth dollars to you—a 168 page text book.

It tells about John Deere Implements: Steel plows, cultivators and harrows; corn planters, disc harrows and beet tools; farm and mountain wagons; manure spreaders; portable and stationary grain elevators and corn shellers; hay loaders, stackers, sweep rakes, mowers and side delivery rakes; motor hay presses; grain drills and seeders; full line of chilled plows; grain binders and corn binders; hit-and-miss and volume-governing gasolene engines.

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RECEIVER'S PUBLIC SALE
of
Nursery Stock
To be held at Claremont, Cal.
Wednesday, July 7, 1915

Peaches, Pears, Apples, Olives, Citrus and a large variety of Deciduous Fruit Trees, Ornamental Plants, Shrubs and Trees, Roses, etc.—to be sold to the highest bidder, at office of Claremont Nurseries, Twelfth Street and Indian Hill Blvd., City of Claremont, Los Angeles County, California.

All stock is divided in blocks and will be sold as it stands.

Particulars regarding parcels, contents of each parcel, and any other information regarding the sale will be furnished upon application to the Receiver.

Possession is acquired on day of sale, and growing stock may remain in the field until the next digging season, by making arrangements with the present owners of land. Labor can be arranged for, by contracting with responsible parties, now in the employ of the Receiver.

Sale continued to following day, if necessary.

TERMS: One-third of purchase price at time of Sale. Balance in Ten Days.

A. D. THORBURN, Receiver

CLAREMONT NURSERIES, CLAREMONT, CAL.

Yellow Citrus---Gophers.

[Written for Pacific Rural Press.]

Citrus trees turn yellow from any one of many causes, such as gum disease, roots choking themselves, marly subsoil, lack of drainage, etc. But in San Fernando valley, H. E. Wilkinson says that the trouble is usually gophers. They often kill the tree quick, but sometimes the yellowed tree may have been gophered years ago, but strugglingly survived.

One of his tangerine trees had a full crop last March, but very few leaves. It was "on its last pegs," its roots having been practically encircled by gophers.

"You can't depend on poison," says Mr. Wilkinson, "because we can't know for several days if we have destroyed the animal, and by that time irreparable injury may have been done."

He traps every day or two, using Macabee spring traps, which are set into the holes so that gophers run against a wire which lets two jaws snap; and he is sure then that he has the gopher. As Mr. Wilkinson says, the gophers travel alone; so that if he catches one, he is pretty sure the tree will not be further damaged for awhile.

OLIVE SPROUTS AROUND GRAFTS.

To the Editor: When you graft olive trees, should you keep cutting or breaking off the clusters of suckers, which come out on the limbs? Or should one let them grow part of the summer? Also, do you think it necessary to irrigate them?—G. F. R., Fresno.

[In grafting or budding olives, it is desirable to irrigate them a week or ten days before and afterwards in order to supply plenty of sap for the union and for starting the new growth. The suckers and branches which come out from the old stock will be of service in so far as they shade it and draw sap up to the bud or past it. Sprouts below the bud will tend to rob it and are dangerous to leave. Those which grow from the stub above where the bud has been placed will serve for a short time to draw sap, but if allowed to grow too rankly or too many of them, they too will rob the bud. The same principle is applied to grafts. As soon as the new shoots from the graft or bud are enough to shade the tree or draw their own sap, the rest of the growth of the old variety should be cleaned off.—Editors.]

GOOD REASONS FOR GOOD DRIED APRICOTS.

To the Editor: In regard to the high quality of our apricots, there are three good reasons:

(1) Climatic conditions are ideal. Very little fog to encourage scale and fungus diseases, clear warm weather during drying gives the fruit its fine color.

(2) Our deputy County Horticultural Commissioner is constantly on the lookout to prevent the introduction of diseases. Nursery stock shipped in is carefully inspected, and boxes of fruit shipped in by shippers and outside canners are fumigated before unloading from the cars.

(3) Our growers strive to take the best care of their trees and fruit. The fruit is picked from the trees at the right stage of ripeness. It costs very little more to pick from tree than to shake onto canvas, as is the practice in some districts, and it is impossible to shake the fruit off without getting some that is too green. Green fruit makes very poor dried fruit, and overripe fruit makes slabby dried fruit. In pitting, the apricots should be cut all around and carefully laid on clean trays.

Hemet. E. O. Eggen.

BATS AND OWLS INSTEAD OF ORCHARD SPRAY.

To the Editor: Several years ago there appeared in the Sunday's "Examiner" an illustrated article on bats and bat manure, copied from a Texas paper, I think. The article in question claimed that a Texan college of agriculture had built a number of bat roosts, or batteries as they were called, for the purpose of collecting the manure, and that they were an effectual check upon the plague of mosquitoes infesting that particular district. About that time I took a trip to Victoria, B. C., visiting a brother, who lived 7 miles out, and found that though the woods and bush were full of mosquitoes, around the house and buildings, where the bats held sway at nightfall, there was scarcely any mosquitoes to be seen, heard or felt. The bats, which were unusually large, were to be seen flying about in hundreds. His orchard also was kept clear of codling moths, by these bats, I imagine, as it was pronounced free and clean by the Government inspectors, while other orchards were condemned and the fruit destroyed. I have often thought that if we had a colony of bats and owls in every orchard, we should not have to spray our trees, thereby killing both friends and foe by poisonous sprays. What do you think of it? The owls would clean out rats, field mice, gophers and squirrels more effectually than poisons and traps if they were properly protected.

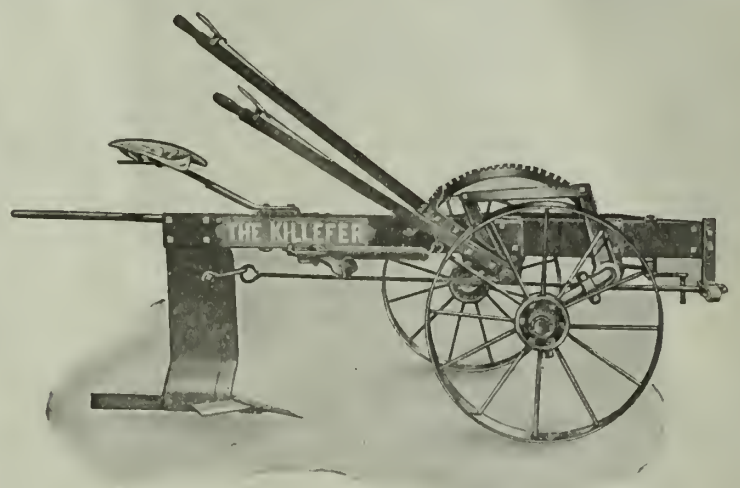
San Jose. Sam'l Haigh.

There is a brisk demand for fruit pitting machines, according to Berger & Carter, who sold ten of their machines within ten days recently in the Vacaville district alone.

One Row Beet Plow

KILLEFER QUALITY

KILLEFER EFFICIENCY



Was designed for the smaller grower where horse power was not available for handling the larger two-row plow. The draft is very light and no more weight has been used than was necessary to give the proper strength.

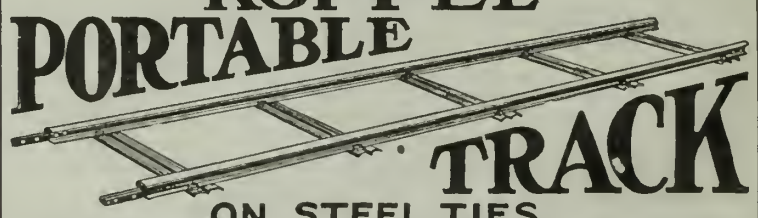
The axles are large with long wheel bearing. This plow is equipped with a compound lever which enables the driver to level it to any of the irregularities of the ground. At the same time it is only necessary to use the one lever to raise the plow at the end of the row. The compound lever works in connection with a heavy coil spring, which assists materially in handling. The foot lever controls the shifting hitch and is below the frame, making it much easier on the driver than the old style.

We build this plow with either straight, sloping or bent standards and with any style of wing or point required.

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Superintendent Wants Position

Do you need a man who can produce the best results from your farm or estate; a superintendent who understands the science of farming and can apply it; one who has managed farms and estates in New Zealand, Mexico and Germany, and who is thoroughly familiar with California farming conditions; a man who can stop the small financial leaks that soon run into money.

I am the one you want. I am well educated; married, and am now engaged in the banking business. I expect to sacrifice some salary for the sake of getting in the country. I will furnish the best of references.

Address

FARMER,

Care Pacific Rural Press, San Francisco, Cal.

Santa Clara Growers' Committee.

In regard to prunes in California, conditions appear to lower rather than raise previous estimates of the crop. Growers generally are feeling that the fruit is largely on the outside branches and ends of twigs and that the first heavy picking will show serious shortage in orchards previously thought to have fair crops, the extremely heavy foliage of this season being responsible in great degree for the bending of the limbs.

The Oregon and Washington crop, while not perhaps coming in direct competition with our own, has yet an influence on prices and it is now conceded to be smaller than earlier estimates.

Servia, owing to war conditions, will be unable to market their crop, even if able to harvest it; and the French crop, which is known to be but half or less, will all be used at home and possibly to a small extent in England. California prunes, even at the living prices for which we are standing firm, will, despite excessive freight rates, be cheaper in Europe than their local product.

We are told by the short selling packers that our prunes can only be sold at the low prices at which they sold short around blossom time. This is false; those who are short are endeavoring to fill at our loss. This is the more clear when we realize that last season's crop sold at better than a 5c basis average through the State in spite of the largest crops of apples, pears, peaches, oranges and grapefruit ever produced in this country; and that within the past few weeks the entire holdover has been sold and is now being shipped largely to England, at a 5¾c basis or better.

This season the conditions as to these other fruits are entirely different. Even before the recent storms the Eastern apple crop was light, and these storms have now further reduced both apple and peach crops throughout the East, making much less competition for our dried fruits than last season.

That this short selling at prices ranging from 3¼c to 3½c basis for 40-60s has taken place to the extent of at least a thousand cars is a matter of common knowledge—as to a small portion of this, we have seen some of the contracts and know the prices at which our product (your product) has been gambled. With this knowledge comes also the certainty that if the growers will hold firm, there is no question but that they will obtain living prices for their fruit.

The apricot crop appears to be lighter than was thought, but the situation has been taken in hand by a growers' organization originating in Cupertino.

J. H. BONE, Chairman.
H. O. H. SHELLEY, Secretary.

Manless Land
for the
Landless Man

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and
"Homeseekers" Folders

Western Pacific Railway
BODE K. SMITH,
Asst. General Pass. Agent.

APPLE LEAVES DWARFED.

To the Editor: Am sending you some apple twigs which are covered with a furry stuff, and the leaves just put out a little way and then die. They were affected this way a little last year, but are much more serious this year.—J. L. B., Stonyford.

[Your apple twigs are affected with powdery mildew, a fungus which winters over in dormant buds. That is why the leaves from these buds are dwarfed and of little value. W. H. Volck of Pajaro Valley recommends iron sulphide mixture prepared cheaply at home at considerable labor, but "atomic" or "milled" sulphur will work just as well. You are too late to do any particular remedying this year except to prune out infected twigs to prevent its living through the winter. Early in the spring is the time to spray for mildew in connection with the first codling spray.—Editors.]

WALNUTS IN THE NORTH.

[Written for Pacific Rural Press.]

One would scarcely expect to find Santa Barbara seedling walnuts bearing superior nuts as far north as Humboldt county, yet Everett Wilder's father planted some trees in a sheltered valley of northeastern Humboldt, 32 of which have been bearing for 25 years.

The nuts are all sold to local dealers in Eureka and Arcata, though it will be necessary for them to ship as soon as the 600 young trees now beginning to come into bearing produce commercial crops. At that time they expect to become members of the California Walnut Growers' Association.

Efficiency

An organization along broad and liberal lines for a nation-wide, safe, and sane distribution of tree and vine fruits. Our services are available through our associate members to any and all shippers of fruits.

MEMBERS:

Geo. H. Anderson	Newcastle Fruit Co.	Producers Fruit Co.
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California Fruit Distributors

CHAS. E. VIRDEN, General Manager,
SACRAMENTO, CALIFORNIA.

PROBABLY LACK OF DRAINAGE.

To the Editor: What is wrong with my young apple trees? They start to leaf out in the spring, then they start to die from the ends of the limbs, and the leaves all dry up. The bark turns brown.—Subscriber, Groveland.

[It is probably due to lack of drainage which holds the soil full of winter water which causes decay of the root-hairs. This water may soak in from rain (or as you are pretty well up in the world, from melting snow). Your trees may be at the base of a slope and thus get too much water by seepage. Where trees act that way the soil should usually be under-drained before replanting.—Editors.]

LEMON STOCK FOR ORANGES.

To the Editor: Kindly advise me if orange trees on lemon roots are considered to be a good union as to growth and fruitage.—A. E. C., Orosi.

[Oranges on lemon roots are not to be considered in California on account of the gum disease which attacks lemons much worse than oranges. Wild sour orange seeds make the stock for practically all of the up-to-date planting, since it makes a good union with all commercial citrus varieties and is as hardy as any. We expect to have an article on citrus stocks in the near future.—Editors.]

SAND FOR LEMON PLANTING.

To the Editor: I see "A Reader" from Dixon asks in regard to planting citrus trees. I had the same trouble for 3 years, so last year I dug good holes and after placing the tree where I wanted it to stay, I had a wagon load of sand ready to move to each hole. I put around the balled roots four heaping shovelfuls of the sand, finishing with other soil, and did not lose a tree. This year I bought some of those trees you had advertised from the South for 25 cents per tree, and better trees I never saw. I planted March 27 and every one lived. Everything starts better in sand somehow.

Oakley. J. T. Smith.

Kill Morning Glory
NOXIOUS WEEDS
AND INJURIOUS INSECTS



Use NONPAREIL

Used and recommended by the largest berry-growers in the State and many of the horticultural commissioners. The growing season is the time to apply NONPAREIL. Send for booklet P, which gives full particulars and prices. Very low rates in drums and tank cars.

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Mechanical Power on the Farm.

FIGURING IRRIGATION QUESTIONS.

[Written for Pacific Rural Press.]

"What capacity should my proposed pump or well have?"

That depends on acreage, rainfall in your section, your soil, the crop grown, the investment desirable, which if less, will increase the other factor—the number of hours' labor per month to be used for irrigation. The horse power required to run the pump will depend on its capacity and type as well as the distance water must be lifted, if matters are not complicated by sand, mud, etc.

If for example, the crop needs 24 inches of rainfall per year equivalent to 24 acre inches of irrigation, and if 12 inches of rain does fall, then 12 acre inches of irrigation will be needed. Proper allowance must also be made for evaporation and seepage. If this is best applied in four equal monthly irrigations during the dry season, it will be equivalent to 3 acre inches each time. If 20 acres are to be irrigated, this will require 60 acre inches per month.

If you can spend 10 days of 8 hours each, or 80 hours per month irrigating, you will need a pump and well able to supply 60 acres inches in 80 hours or 6 acre inches in 8 hours. By reference to the accompanying table, you will find that 6 acre inches supplied in 8 hours requires a pump capacity of a little over 339 gallons per minute.

On the other hand, the same table is useful in answering such questions as this: "How much water equivalent to inches in rainfall does a pump throwing a thousand gallons of water per minute furnish 200 acres if running continuously?"

A thousand gallons of water per minute for 8 hours as shown by the table supplies practically 18 acre inches. Running continuously, it would equal 3 times 18, or 54 acre inches per day. If you want to water the 200 acres once every 20 days, you will water 10 acres per day, getting 1-10 of 54 acre inches or 5.4 acre inches per acre equal to 5.4 inches of rainfall for each irrigation.

Again, one may want to answer the question: How long will it take to apply 2 acre inches on 100 acres (or 200 acre inches) with a pump capacity of 450 gallons per minute?

Reference to the table shows that 450 gallons per minute for 8 hours is equivalent to 8 acre inches or 24 acre inches per day running continuously. To apply 200 acre inches requires as many days of 24 hours as 24 is contained in 200, or 8⅓ days.

LAND IRRIGATION TABLE.

Acre inches, their equivalent in gallons; and pump capacity in gallons per minute, necessary to deliver the stated quantities of water in one day of 8 hours. A miner's inch equals nearly 9 gallons per minute.

[Arranged by Wm. H. Kritzer.]

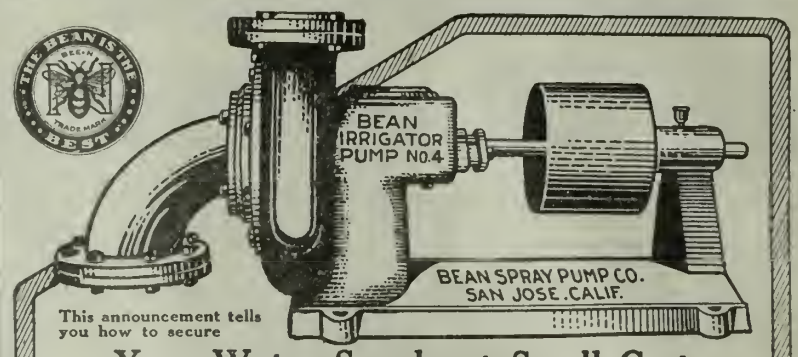
Acre Inches	Gallons Water	Gals. per Min. For 8 Hours
1	27,152	56.57
2	54,304	113.16
3	81,456	169.74
4	108,608	226.32
5	135,760	282.90
6	162,912	339.48
7	190,064	396.06
8	217,216	452.64
9	244,368	509.22
10	271,520	565.80
11	298,672	622.38
12	325,824	678.96
13	352,976	735.54
14	380,128	792.12
15	407,280	848.70
16	434,432	905.28
17	461,584	961.86
18	488,736	1,018.44
19	515,888	1,075.02
20	543,040	1,131.60
21	570,192	1,188.18
22	597,344	1,244.76
23	624,496	1,301.34
24	651,648	1,357.92
25	678,800	1,414.50
26	705,952	1,471.08
27	733,104	1,527.66
28	760,256	1,584.24
29	787,408	1,640.82
30	814,560	1,697.40
31	841,712	1,753.98
32	868,864	1,810.56
33	896,016	1,867.14
34	923,168	1,923.72
35	950,320	1,981.30
36	977,472	2,036.88

NOTE—Proper allowance must be made for evaporation and seepage from the ditches, between the pump and the field, which vary according to climate and soil conditions. An acre-inch is a depth of 1 inch over an area of 1 acre, ½-inch over 2 acres, 2 inches over ½ acre, etc.

CULTIVATOR VS. WEED CUTTER.

To the Editor: Which implement do you prefer for cultivating, a good weed cutter, run about 4 inches under the surface, or a cultivator? There are no weeds as yet, but I have been told that a weed cutter does not disturb the surface as a cultivator does, hence they are the best.—W. B. Y., Winters.

[If you have no weeds, and especially if you have no irrigation, we would say that a weed cutter run a few inches under the surface would be better than a cultivator because it leaves the surface smooth, but in the form of a fine dust mulch which



This announcement tells you how to secure

Your Water Supply at Small Cost

At last—a high-grade, efficient, dependable centrifugal pump at a low price. The Bean Irrigator introduces a new standard of pump values. Though the price is as low as the lowest—the pump is "Bean quality" through and through. If you're interested in irrigation you should learn about

Bean Centrifugal Pumps

For Downright Good Service They are Absolutely in a Class by Themselves

The Bean Automatic Water Balance eliminates end-thrust, thus saving much trouble.

The Bean Water Sealed Stuffing Box makes excessive tightening of the stuffing box glands unnecessary. The shaft where it enters the pump is entirely surrounded by water, which forms a perfectly air-tight seal with very little friction.

Bean Runners are Enclosed, accurately machined and perfectly balanced. This means greatest possible efficiency.

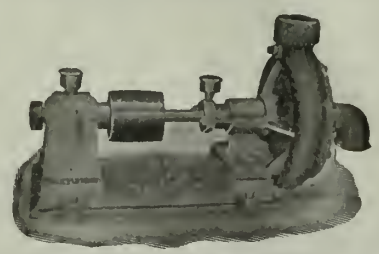
SEND FOR BEAN CATALOG 28-B

It illustrates and describes the Bean line of Horizontal and Vertical Centrifugal Pumps, Bean Turbines, Direct Connected Outfits, etc. Tell us your pumping requirements. The experience of our irrigation specialists is at your command. For our general line of House, Windmill, and other Pumps, ask for Catalog 28-D. For Bean Opposed Gas Engines ask for Catalog 28-C. A postal will bring any or all of these catalogs by return mail.

BEAN SPRAY PUMP CO. 211 West Julian Street San Jose - California

THE WINSBY PUMP

Our New 1915 Type Pump



Best Model for Low Lift Pumping

Size	1 in.	1¼ in.	1½ in.	2 in.	F. O. B. Cars
Price	$16.00	$20.00	$25.00	$30.00	Oakland

Larger Sizes at Proportionate Prices.
Complete Pumping Plants of Any Size or Type Furnished and Installed.

WE MANUFACTURE
Pumping machinery of all kinds and for all purposes.
Mining, Milling, Concentrating and Rock Crushing Machinery.
Ice Refrigerating Machinery, Cold Storage, Rooms and Counters.
Water Wheels, Dredgers and Hydraulic Machinery.
Fire Hydrants and Cast Iron Fittings.

WE CARRY IN STOCK

Pipe	Belting	Pulleys	Shafting	Boilers
Casing	Leather	Wood	Hangers	Steam
Valves	Rubber	Steel	Collars	Engines
and	and	and	and	and
Fittings	Canvass	Cast Iron	Boxes	Supplies

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UNITED IRON WORKS

Branches: Los Angeles; Seattle, Wash.; Spokane, Wash.
GENERAL OFFICES AND WORKS: OAKLAND, CALIFORNIA.
We are the largest manufacturers of pumping machinery on the Pacific Coast.

Improved Fruit Pitting Machines



Capacity:

APRICOTS, 1 ton per hour.

PEACHES (freestone), 2 tons per hour.

Write for Circular.

Does the Work of 15 Men.

Guaranteed.

Berger & Carter Co.

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Second Hand PIPE Screw Casing

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OFFICE—250 North Point Street, San Francisco, Cal.—WORKS

Now Ready

"Vacation 1915"

The Guide to

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Tributary to the

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Copies of "VACATION" may be had free at 874 Market street (Flood building). Sausalito Ferry Ticket Office, or on application to J. J. GEARY, G. P. & F. A., 808 Phelan Building, San Francisco, Cal.

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Surface Irrigation Pipe.

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then why experiment with any other? Lasts a lifetime.

AMERICAN STEEL PIPE & TANK CO.

Suite 354-56 Pacific Electric Bldg., Los Angeles. Branch: 1228 "H" St., Fresno.

Also, single and double Well Casing.

will prevent evaporation; while the cultivator leaves it in ridges exposing too much surface to the drying influence of the wind and sun. Neither will do the best work, however, until the clods have all been mashed and the dirt worked up fine. —Editors.]

IGNORANT OR INDOLENT DRIVERS.

[Written for Pacific Rural Press.]

"Practically all the troubles of automobilists are due to ignorance or indolence," said an automobile mechanic the other day.

"The troubles due to ignorance come because those who run machines are not well acquainted with them. Each machine is different from the other, although many of the principles are about the same. But unless one knows by the sound of its running just what is the matter with his particular machine, he will have troubles due to ignorance. The same discordant sound in one make of a machine will indicate a different trouble than it would in another make. The first thing a man ought to do is to gain a thorough knowledge of the priciples on which his machine is built and the details of the mechanism.

"Troubles due to indolence usually follow the idea that "Oh well, she's running all right, why should I worry?" Before such a driver knows it there will be a few nuts loose, and then there is extra wear on the bolts, extra jar and vibration on the machine, and pretty soon something breaks.

"There is another trouble, too, which comes from not overhauling the machine occasionally. Nuts underneath the works are likely to keep oiled enough so that they do not rust, but those where oil does not naturally work into them are likely to rust tight; and in case of any trouble at all, the mechanic who repairs the machine has to spend an hour or two getting the nuts off, usually with a cold chisel and some profanity, and the automobile owner wonders why he has to pay so much for the job. If every nut on the machine is tightened up, say a quarter or half a turn, about every month it will prevent this rusting and enable repairs to be made in the quickest time at the least expense.

PIPING COLD AIR.

To the Editor: I am building a cold storage house on my ranch. I am building it underground. The floor and wall will be concrete, the ice packed in sawdust. What is the best way to place the pipes to carry the cold air below, and what is the best way to pack the ice to make it last the longest?—S. B. C., Fresno.

[In building your cold storage house, pack your ice cakes close together with no sawdust between them, but with a good packing of sawdust around the outside of the stack of ice. If the ice is stored underground only a little packing around the outside will be necessary; but considerable sawdust, say at least ten inches, should be packed on top of it. The cakes may freeze together a little bit, but are easily cracked apart with a chisel. In cooling off your milk room, probably the most economical way would be to put a cake of ice in a small compartment through which air from outdoors may come down over the ice and downward through a pipe to the floor of the milk room. The warm air of the milk room will rise toward the ceiling as the cold air from the ice flows in and there should be an outlet in the roof just large enough to furnish circulation without allowing much outside air to enter.—Editors.]

TRACTOR PLOWS DRY ADOBE.

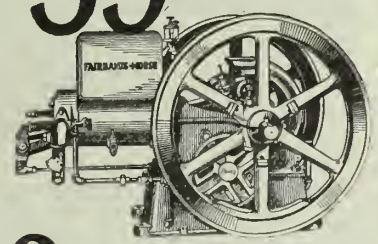
Plowing 240 acres of "adobe the worst kind" before December was made possible for Frank Roberts of Sonoma county with a Yuba 18 h.p. tractor and a Spalding-Robbins disk plow. This was done while many of his neighbors were waiting for rain to soften the soil enough to plow. He plowed 10 acres per day 8 inches deep at a cost for gas and oil of $2.40 per day.

"I am perfectly satisfied—do not think I could do without it."

Where there is wood to saw on the farm, it is a good idea to do as Jos. Wolf of the Santa Clara Valley, who runs a belt from the fly wheel of his irrigating engine to a circular saw which may be run at any time except when irrigation is on.

$59.00 F.O.B. Beloit, Wis.

Complete with battery and accessories—ready to run.



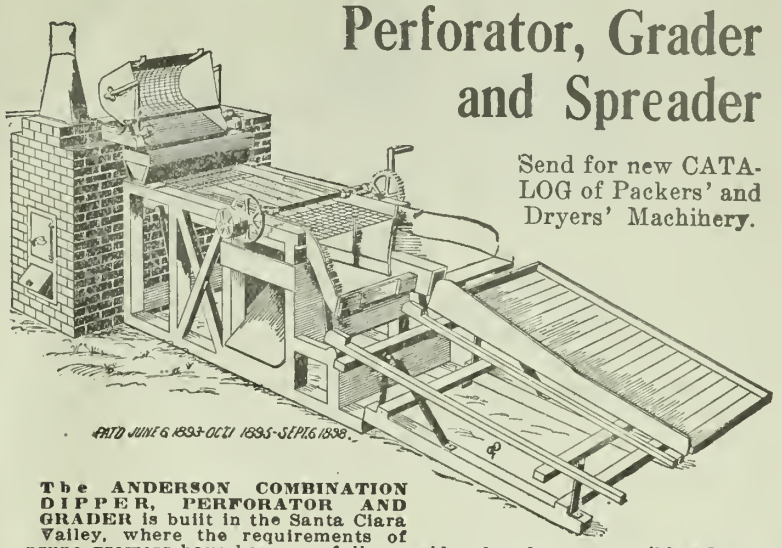
2 HP Gasoline Engine

Strength, weight, durability, workmanship and fuel economy, all guaranteed by *Fairbanks-Morse quality.*

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Warehouses in 30 large cities, where delivery can be made and car-lot rate of freight only, added.

Anderson Combination Dipper, Perforator, Grader and Spreader



Send for new CATALOG of Packers' and Dryers' Machinery.

The ANDERSON COMBINATION DIPPER, PERFORATOR AND GRADER is built in the Santa Clara Valley, where the requirements of prune growers have been carefully considered and every possible advantage incorporated into the machine. Can be furnished with or without rinse tank. Made in various sizes for hand or power.

SEND FOR 1915 CATALOG.

It illustrates and describes the entire Anderson-Barngrover line of Fruit Packers and Dryers' Machinery. A copy will be sent free to all who are interested. A postcard will bring it.

See our Exhibit in the Palace of Horticulture at the Panama-Pacific Exposition adjoining the Cuban Gardens, which are under the Big Glass Dome.

Anderson-Barngrover Manufacturing Co., 20 West Julian St., San Jose, Cal.



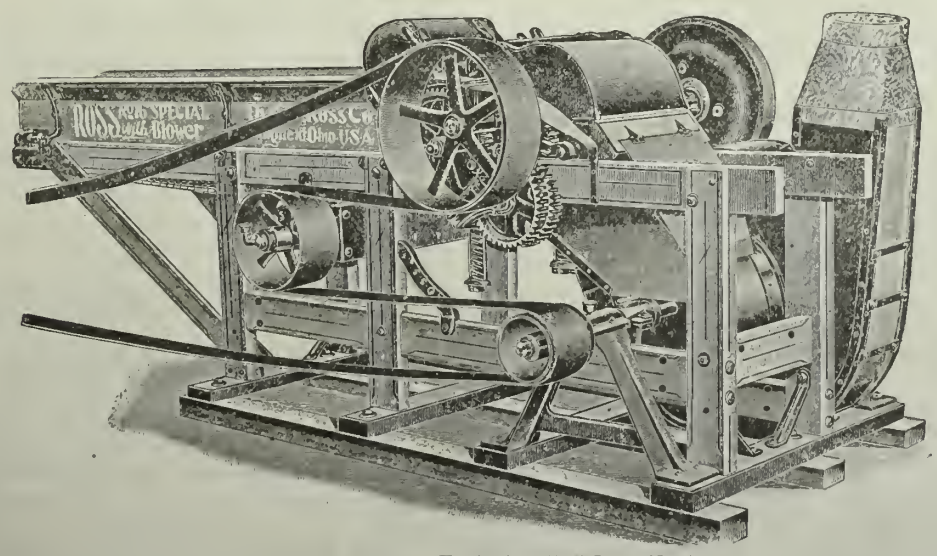
IRRIGATION SYSTEM

This is the Method of Irrigation in general use throughout the Southwest today. Open ditches, wooden and concrete flumes have been almost universally superseded by the K-T System. You cannot afford to experiment with obsolete or inferior methods. If you are a present or a prospective irrigator, you should have a copy of our valuable booklet on Irrigation. Write for it today, and for any specific information you may require.

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The most complete line of Feed Cutters on the Pacific Coast.
2 Types—Cylinder and Knife on Fly Wheel.
18 Sizes.

The 36-inch machine here illustrated is the largest capacity and most powerful feed cutter made.

Write for complete catalog and get in line to take the lead in your territory on this rapidly growing business.

Exclusive 1915 Ross Features.

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General Agricultural Review.

CITRUS AND SEMI-TROPICAL.

Much gray scale is being found in some of the citrus orchards of the Porterville section.

Three cars of orange trees, mostly Washington navels, have been received by Chas. E. Sawyer of Sacramento county for planting on his land there.

Butte county's orange crop will possibly go to 75 per cent of a normal crop, according to an estimate made by County Horticultural Commissioner Earle Mills.

Porterville orange growers recently listened to an address on gray scale, spraying, and fumigation delivered by Prof. Quayle of the Citrus Experiment Station at Riverside.

The regular monthly meeting and picnic of the Covina Farmers' Club was held recently at the Citrus Experiment Station at Riverside, at which time opportunity was given the members to inspect the experimental work of the Station and listen to addresses by members of the faculty.

The Tule River Citrus Association of Tulare county met recently and elected the following officers and directors: H. Webster, president; A. W. Clark, vice-president; and Frank Wilson, secretary and manager. Directors, W. E. Sprott, A. W. Clark, H. Webster, J. G. Larson, and W. W. Lindley.

To attract auto travel through the citrus belt and to advertise the east side of Tulare county was recently discussed at a meeting of the various chambers of commerce of the county. It is proposed to erect large signs, descriptive of the route, directing automobile tourists coming up or down the valley through the citrus belt.

DECIDUOUS FRUITS.

Aphis in the prune orchards of Gridley is causing much concern to the growers.

Dried apples from Sebastopol took grand prize at the Panama-Pacific Exposition.

The sixth annual Gravenstein Apple Show will be held at Sebastopol Aug. 14 to 22.

Two packing houses are to be built in Concord, one by the Pioneer Fruit Company and the other by the Earl Fruit Company.

A shipment of $30,000 worth of canned fruit was made to Liverpool, England, by Libby, McNeil & Libby from their Yuba canneries. This shipment is believed to be one of many going to England.

G. A. Bolster, sales manager of the California Cured Fruit Exchange, and E. E. Ogden, president of the California Cured Fruit Exchange, recently addressed a meeting of the Santa Rosa Cured Fruit Association.

The San Jose Grange was addressed June 26 by Leonard Coates of Morgan Hill. His subject was the development and improvement of fruits of commercial value, with reference particularly to the working over of unprofitable orchards.

It is reported that green fruit packers of the Fresno district, including also Kings and Tulare counties, will handle only peaches bought early in the season on contract, and very few cars of fruit which they usually handle on consignment.

Peaches have been entering central states from southern states in large quantities for the last two weeks. It is estimated that the probable output of the Gulf states east of the Mississippi, including Georgia, Tennessee, and Kentucky, for this season will be 5,000 to 6,000 cars.

A new cut in freight rates has been assured California shippers, according to an announcement made that the Interstate Commerce Commission has authorized the Southern Pacific Railroad and its eastern rail and steamship connections to make a rate of 60 cents and 80 cents per 100 pounds on dried fruit in bags to eastern points in carload lots, having a minimum carload of 60,000 pounds. These rates may be established from San Francisco, Oakland, San Pedro, and Wilmington to Boston, New York, Philadelphia, Baltimore, and Charleston. Higher rates may be maintained to intermediate points, but such intermediate points may not be increased over the present.

GRAPES AND SMALL FRUITS.

Shipments of raisins for the first five months of 1915 exceed the average for the first five months for the last five years.

Inspection of infected vineyards in the vicinity of Yuba City is being carried on by R. L. Nougaret, Government Expert on phylloxera.

That grapes are setting well, with little or no danger feared from mildew and other troubles, is the report received from Livermore Valley.

Approximately 1,000 tons of Muscat raisins were exported from Fresno during the past week, according to the California Associated Raisin Company.

Wylie M. Giffen, president of the California Associated Raisin Company, is in the East making a study of conditions there. He will return to California July 15.

The California Associated Raisin Company received two grand prizes at the Panama-Pacific Exposition, one for the seeding process and the other for the quality of the seeded raisins.

OLIVES AND NUTS.

Blight is hurting Santa Barbara walnut prospects.

N. B. Crane of Oroville recently sold a 12-acre bearing olive grove to Mrs. Lucy V. Day.

J. P. Murphy purchased 30 acres of two and three year old almonds from C. N. Howard of Chico, for a price in the neighborhood of $10,000.

Olives from the Ehmann Olive Company of Oroville took Grand Prize at the Panama-Pacific Exposition, and the oil exhibited by that company was given an award of honor.

Grafting their oil olives over to the Mission variety is being done by several growers in the Fair Oaks section. It will be three or four years before they will reach a profitable bearing stage, and then not profitable unless the buds were taken from trees bearing large fruits.

At the annual meeting of the Capay Almond Growers' Association, the following directors were elected: F. M. Parker, Harrison Barr, P. H. Wanshop, W. Naismith, and Chas.

INSURE YOUR SEED

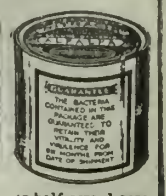
Get a "catch", a good stand, and a big yield of ALFALFA, BEANS, Peas, Vetch, and *all other Legumes* — inoculate with



The Improved German Soil Inoculator, Nobbe-Hiltner Process

NITRAGIN

PURE CULTURE



Gold Medal St. Louis 1904

THE SIMPLEST SAFEST AND SUREST SYSTEM OF SOIL INOCULATION FOR ALL LEGUMES

in half-acre, 1-acre and 5-acre cans



Inoculated ALFALFA Not Inoculated

"NITRAGIN" is the *original* Pure Culture—*a granular* medium (*not* a jelly)—nothing to break or spill—packed in a ventilated can, containing millions of surfaces, supporting billions of nitrogen-gathering germs, their health, strength and virility

Guaranteed for Six Months by the Armour Fertilizer Works.

Absolutely harmless. Easy to use. An investment—not an expense. Remember—legumes not inoculated take *no* nitrogen from the air. Inoculated legumes mean bigger yields, richer feeding value, better soil.

Pure Culture inoculation is endorsed by the U. S. Dept. of Agriculture and other authorities. Thousands of satisfied California ranchers testify to the wonderful results obtained with "NITRAGIN" — the *Original* Pure Culture.

Avoid Imitations. LOOK FOR THE ARMOUR OVAL LABEL.

Make your crop sure. Inoculate with "NITRAGIN". It can be obtained for *any* legume.

See your seed dealer or write for FREE BOOKLET.

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One of the many styles and sizes of Fruit Trucks I manufacture. Sixteen years of experience has taught me how to make trucks that will stand the hard knocks and that will last. I also build road carts. For prices and further particulars, address

BROEDEL ORCHARD TRUCK CO.,

552-556 SOUTH FIRST STREET, SAN JOSE, CAL.

PIPE

For Every Purpose NEW Threads & Couplings. Hot Asphaltum

Second Hand and NEW

Screw Casings Fittings and Valves Guaranteed for Pressure

Pacific Pipe Co.

Main and Howard Sts. San Francisco, Calif.

GOLDEN GATE WEED CUTTER AND MULCHER

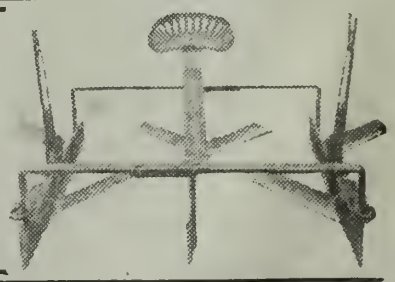
(Patented December 5, 1911.)

Not only cuts down weeds, but KILLS them—and leaves finely pulverized top soil. Cuts any depth. Prevents evaporation by working under soil without disturbing soil on top.

See them at the Exposition, Block 1, Agricultural Palace. Write for Circular.

C. G. SIGURD,

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KIRKMAN NURSERIES

WHOLESALE GROWERS OF

True to Name Nursery Stock

Main Office: 2523 TULARE STREET, FRESNO, CALIF.

CAMPBELL

IRRIGATION

We lead the world in overhead irrigation of all kinds. Send for revised edition of our booklet, "Modern Irrigation" and literature describing our circular Irrigation Sprinklers, the Campbell Automatic and Campbell Tube-Irrigator, and the new Automatic Oscillator for overhead pipes.

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EUCALYPTUS SEEDS.

Forty species to select from. Write for free pamphlet "Eucalyptus Culture." It tells how to sow the seed, raise the young plants and plant out in the field. Trial packets 15c each. 4 for 50c. Special prices on large quantities.

THEODORE PAYNE,

345 S. MAIN STREET, LOS ANGELES, CAL.

Herman. The directors then organized and elected W. Naismith president, C. C. Barr secretary, and P. H. Wanshop delegate to the California Almond Growers' Exchange.

On account of their increased membership and in order to handle the expected 700 tons of nuts this year, the Almond Growers' Association of Lodi will enlarge their plant and install new machinery.

The International Press Congress to consider how to make farm papers and other periodicals better, will meet in Festival Hall at the Panama-Pacific Exposition July 5 to 10. All sessions are open to any person interested.

The Guinda Almond Growers' Association, an independent association of almond growers, at a recent meeting voted to join the California Almond Growers' Exchange, making 18 associations now composing the Exchange. The Guinda Association owns a modern, fireproof almond warehouse and represents about 140 tons of the famous Capay Valley almonds, 1915 crop.

GRAIN AND FIELD CROPS.

A fine stand of beans and sugar beets is reported in Santa Barbara county.

The second crop of alfalfa is being cut in the vicinity of Woodville, Tulare county.

The Manteca Cannery will open after July 4, beans being the first crop handled.

The Visalia plant of the San Joaquin Valley Sugar Company will open early in July.

Three carloads of alfalfa hay daily to Australia through San Francisco is being shipped by Robert A. Foster of Corning.

The Porterville Alfalfa Company has closed a contract with W. H. Bloomingdale of New York for a shipment of alfalfa.

Forty acres to asparagus will constitute an experimental planting to be made by the Mills Orchard Company at Willows in the near future.

The Lima Bean Growers' Association of Ventura county has suspended business for one year because the required 50,000 acres was not subscribed.

It is stated that the asparagus business in Yuba county has trebled in the past year, the income to growers increasing from about $10,000 a year to nearly $25,000.

Three thousand acres of alfalfa fields and orchards are under irrigation in San Benito county from the canal system of the San Benito County Land and Water Company.

The U. S. food inspectors have ruled that the so-called Manchurian, Korean, and Japanese Limas are merely varieties of the common bean and much inferior for table use. It will be illegal hereafter to market them as Limas.

M. D. Vieira of Turlock writes that they are cutting a fine third crop of alfalfa now in that irrigation district. Grain crops have been harvested and land being prepared for beans and Egyptian corn. Melons and sweet potatoes are less noticeable than last year.

MISCELLANEOUS.

The Northern California Exposition, Agricultural, Livestock, Poultry, and Mineral Show, embracing Trinity, Siskiyou, Modoc, Lassen, and Shasta counties, is to be held at Redding early in September.

A model farm is to be started by the Kern county high school, with the idea of making it one of the show places of the county. It consists of 27 acres of fine land. Geo. Berry, graduate of the University of California, has been appointed instructor.

Parcels post shipment to Italy, which was suspended on May 24, has been resumed. Regardles of the existence of war, the United States may send parcels post packages to all the countries of the world except Belgium, Turkey, and the northern and northeastern parts of France.

Protests are being prepared by various irrigation districts in California to be sent to Washington against granting any more reservoir rights to power companies unless conditional on turning the water back into the stream without cost to the districts, or on equitable basis.

Lack of ships to carry California fruit, grain, and other products to foreign countries is responsible for the almost prohibitive rate on trans-Atlantic freight. Lack of ships is responsible very largely for low prices of farm products now. With this in view, as well as other purposes, the San Francisco Chamber of Commerce has adopted resolutions addressed to the President, to the Secretary of Commerce, and to the Chambers of Commerce of all other American cities, urging their help in securing the appointment of a commission of practical shipping men to study the shipping laws of foreign countries and devise laws which would be fair to all parties and yet increase the number of ships sailing under the American flag and thus unavailable for war purposes of foreign nations just when we need them most to carry our farm products across the sea.

Spraying Time

and there is no better spray than

Scalefoe

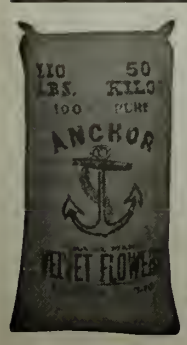
Not only for scale but nearly all insects, worms and bugs that infest plant life. It has been killing them for 15 years, giving the greatest satisfaction without injury, but positive benefit, to the plant. Send for our book of testimonials or better, try it.

Gallon can, 50c;
5-gal. can, freight prepaid, $2.00.

Must be mixed 20 parts water to one Scalefoe before using, making it very cheap. Write for prices in barrels delivered at your freight station.

West Coast Seed House

TOMPKINS & CO., Proprietors. 116-118 E. 7th St. LOS ANGELES.



SULPHUR

Fleur de Soufre, Anchor Brand, Velvet Flowers of Sulphur and Eagle Brand. Packed in barrels and double sacks. Are the fluffiest Sulphurs that money can buy; the best for vineyards; the best for bleaching purposes, LEAVING NO ASH. SEND FOR ILLUSTRATED BOOKLET; also PRICE LIST and SAMPLES.

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ZEROLENE
the Standard Oil for Motor Cars

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the Gasoline of Quality

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TENTS
Irrigation Hose
Wagon Covers—Canvas
Desert Brand Water Bags
Milk and Butter Coolers

Write for Catalog and Discounts.

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PRUNE DIPPERS

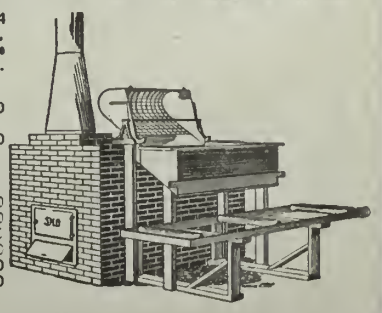
with all the latest improvements. Best and cheapest on the market.

Our dipper consists of tank made of No. 14 steel with 1½ in. pipe coil. Basket weights, levers and frame. Furnace front and irons, grate bars, tie rods, 10 ft. 9 in. galv. iron smoke stack.

PRICE, F. O. B., $60.00.

Hopper and Spreader	$15.00
30 in. Green Grader, 3 grades, suitable for above	85.00
Large Power Dipper and Grader, capacity 75 tons per day.	
24 in. Hand or Power Dry Graders:	
3 grade	$55.00
4 grade	60.00
5 grade	65.00
Field cars, wood or steel frame	6.00
Transfer cars	8.50
Turn Tables	8.50

8-lb. steel rails, 7 cts. per foot.



SMITH MFG. COMPANY, 200-224-226 THE ALAMEDA, SAN JOSE, CAL.

MORE STOCK FOR FOOD AND FERTILIZATION.

THE PACIFIC RURAL PRESS occupies a rather unique field among agricultural papers of the country, in that it has been in existence and been a factor in all the agricultural development of note in California, and that is saying a great deal. The paper has, however, devoted a large part of its space and influence toward the upbuilding and encouragement of the fruit industry.

To every man familiar with the agriculture of the State, it must be evident that we have reached a point where the furtherance of branches of agriculture other than the fruit growing must be considered of primary importance. We are becoming a bit wobbly; we need to quiet down and direct our attention to some definite lines of development. No one is in better position, or is better qualified to direct this movement than you are. ("Who's Who" tells us that your esteemed editor once made a study of cheese, was Secretary of a Dairymen's Association, President of a Dairymen's Board of Trade. We know that he has long been with the "Cow College" over in Berkeley and has ably directed its work.)

Here's what we have to suggest: California needs more dairy cows, more beef cattle, more sheep, more hogs, more animals of all kinds on the farm, and on the ranges. California farmers should grow bigger and better crops of feed for these animals. Not only are more acres of alfalfa, corn, and grain needed, but heavier yields per acre. Not 5% of the land in the State produces half the weight of crop we have reason to expect.

We need to have cattle and fertilization preached to us. Fortunately the two go together; in fact, supplement each other.

Don't let up on the fruit pages, but help us grow the meat we need. Help us get the kind of laws which will make it possible for the banker to loan money on four-legged stock on grass, as readily as he would on four-edged stock on paper, as is done in other stock-raising States. Help us to stop wobbling; one year we have worlds of cattle and no feed, the next year we have worlds of feed and no cattle. Help us to increase our yields of alfalfa. In the San Joaquin Valley alfalfa doesn't yield as much hay per acre in six cuttings as it does in Nevada in three cuttings. There is a reason for this, and we want to get that reason well understood.

We know Professor Wickson will have a lot of fun helping to start the new industries on the road up. So consider this matter, if you please. Ask a few orange growers, ask a few owners of peach orchards if it wouldn't pay to build up animal husbandry.

Yours very truly,

San Francisco. SYMMES AND MEANS.

Being Safe Rather Than Sorry With Hogs.

[Written for Pacific Rural Press.]

Build your frame first and then pile on the fat with plenteous feeding afterward, is the principle W. T. Chapple, manager of the Fair Oaks Ranch at Willits, puts into practice with hogs, and he is so successful at it that the local butchers greedily absorb his product at top prices always. The last bunch of 50 head turned off weighed 150 pounds at five months old.

Had this been written three years ago, it would be a different story. Then the grade sows on the place were small boned and scrubby. Also the ranch had been farmed to grain hay so long that poor crops were the rule, and lastly, Mr. Chapple was a city man with no farming experience.

The first jobs were to get bone into the young pigs and then decide on a ration that was economical and productive of quick growth.

Two registered Duroc Jersey sows and a Duroc boar were purchased as a foundation for a purebred herd. The boar was used as herd sire for the grade sows as well as the purebred and thus a part of the bone was bred into the pigs.

Breeding alone don't make the frame, though. It takes bone building feed and Mr. Chapple thinks that too many farmers lose sight of this point.

As soon as the pigs are born, their little sharp teeth are snipped off with a pair of tweezers. The sows with their pigs are housed in a central farrowing house. The ration fed to sows and young pigs is composed of ground barley or wheat, shorts, and tankage fed in a thin slop.

Tankage is used as a substitute for skim milk and has been used very successfully in connection with ground barley, wheat, sulphur, charcoal, linseed oil meal, air-slacked lime, and copperas, which is continuously kept before them in self feeders. This with rape and barley pasture has been the main spring and summer rations, a 70-acre field of oaks furnishing a large quantity of acorns some years in the fall after frost upon which the hogs gain in flesh rapidly. Acorns make a poor quality of pork unless the hogs are later hardened on grains, and this has led to grain finishing in all cases.

Keeping the above mentioned feeds in front of them all of the time naturally leads to rapid growth and to some may seem a pretty expensive table to set for animals that are noted for their ravish appetite for good feeds, but it is Mr. Chapple's experience that it takes about so much feed to proluce a given amount of pork and it's better to turn off the weight in six or seven months than it is to wait for a year and a half as is customary in that section.

In feeding grain, however, care is exercised to prevent the hogs from gulping rather than chewing their feed, by self-feeders which do not permit of rapid eating. It is surprising to note that while each bin is kept full, the amount eaten of the different feeds does not vary greatly, the hogs evidently liking a variety best. Once when the supply of tankage was exhausted for a time, however, it took several days to fill them up on it again, their systems apparently demanding about a certain amount of it before they again settled down to the ordinary amounts.

Feed growing on the ranch has been limited pretty much to barley and wheat, with some vetch and barley pasture. Experiments are being tried out this year with artichokes and clover, and at present appear to be suitable crops for that district. If they prove so, a larger acreage will be put in next year.

To quote Mr. Chapple, "We have gone into this game easy, preferring to be sure rather than sorry. We feel now that we are ready to go into the purebred business, the thing we originally started to do, and from now on we shall materially increase our Duroc herd, selling off the grade sows and filling in with purebred gilts. We also contemplate breeding Berkshires, having purchased two choice gilts last fall."

That their logic has been sound is demonstrated by some of the largest and most uniform pigs that it has been the writer's privilege to view for some time, which were seen on the ranch in June.

CALIFORNIA'S JERSEY ISLE.

(Continued from page 1.)

tremely heavy, and the fogs supplying additional moisture in the summer months.

Root Crops Supplement Pastures.—Beets and carrots are the chief crops used to supplement the pastures, carrots being fed in connection with pasture from about September 1 till November or December. At that time the heavy rains commence and the cattle are fed beets and hay in the barn till the beginning of spring, when they are turned on to the pastures again. It is at this time of the year that the cows freshen, the common practice being to dry them up during January and February.

The soil is productive of wonderful tonnages of everything grown, although as one man explained, "We can only guess at the yield of forage as most of it is pastured." As an example of its richness, however, we were repeatedly told of instances where a cow to the acre was being carried, the average for the section being 1½ acres to the cow. One piece of fall-sown pasture was seen that has already been cut for hay twice this year and will produce another cutting before winter. Two dairymen estimated the carrot yield per acre at 90 tons, the cost of raising of which runs between $40 and $50. It is an established belief among many of the dairymen that the more farming you do, the less money you make, and that the man who pastures most, makes the most money.

Silage to Help Root Crops.—There has been in times past one season of the year when the feed problem was a trying one. That was an interval of about six weeks after the pastures begin to dry up and before the carrots begin to ripen. It is proposed to fill the gap in the future with silage, using the early cuttings of clover and rye grass for this purpose and thus overcoming much rain-damaged hay in the spring. Vetches and oats and vetch and bald barley are also thought well of as a silo crop, being planted on the carrot land in the fall and siloed before carrot planting season in the spring.

Corn is grown to a limited extent, but the ears do not fill out sufficiently to make silage, so it is used as a soilage crop. Some alfalfa is being tried out, but the water table does not permit its deep rooting, it is thought. That its value is recognized, however, is proved by the outside purchases of baled hay which are being made each year at prices of $12 to $15 a ton.

"I have made one big mistake and it was also the mistake of others," said one man. "When I started to use purebred bulls almost 30 years ago, I should have purchased some registered cows. My herd would now be so valuable to others that I would find a ready market for my young bulls and heifers. My average production as well as that of my neighbors is high, and our herds are purebreds for all practical purposes, but we can never register them and, therefore, cannot sell them for breeding purposes. This should and would be known as the Jersey Isle of America had we started breeding purebreds years ago. With the tenants gradually purchasing the land, and the purebred animals rapidly increasing, we are expecting more rapid advancement in the next few years than we have made in the past," which factor if carried out will always keep Humboldt county in the fore ranks of prosperous agricultural counties of California.

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We are offering for sale purebred registered HOLSTEIN FRIESIAN BULLS. Serviceable age. Bred in the lines of Pontiac, Korndyke, De Kol, Hengerveld, Inka and Spofford blood, the highest record strains. Dams—high record foundation cows, ranging up to 38 lbs. in 7 days. For further particulars and prices write or call:

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7 Choice Registered Tuberculin-tested Short Horn Bulls, aged 14 to 20 months. If interested, write or call immediately.

H. L. MURPHY, PERKINS, CALIF.

Mules for Hot Weather.

[By Forest H. Berg, San Francisco Veterinary College.]

There are two kinds of mule, the mule proper (Equus Asinus), which is the produce of a male ass with a mare, and the "hinny" resulting from the mating of the stallion with the female ass.

The mule is the more valuable of the two, and to its production the attention of breeders is entirely directed. In fact the production of the hinny is so rare that its existence is sometimes denied. However, we know it does exist, but we shall not pause to consider it, as it is seldom seen and has no commercial importance.

Horses and asses will not associate with each other, and intercourse between the two species is seldom voluntary, for, although the male ass will mate with the mare, the latter seems to have a strong aversion to him, as is also true of the stallion regarding the female ass. For this reason, in mule breeding, it is often necessary to blindfold the mare before she will allow the ass to be brought near her.

It is claimed that fecundation is not so certain between the ass and horse species as between the male and female of either species. Fecundation of the female mule by the stallion or male ass is not very rare, although she seldom reaches the natural term of pregnancy and rarely brings forth a living offspring.

No instance has ever been recorded in which the male hybrid has been prolific, although physically he appears to be perfect and often displays an intense passion for the female.

President George Flemming of the Royal Veterinary College of London says that the period of gestation in a mare impregnated by the ass is a little longer than when the father is a stallion, the average time being 375 days, also that abortion occurs more readily and more care is necessary than in breeding horses and asses.

In mule breeding more choice can be given to the selection of mother than the father, for almost all asses have in proportion to their weight, a very large head, short thick neck, flat sides, low shoulders, narrow chest and croup, small legs and very narrow hoofs.

The selection of mares with a small head, round body, short back, a long neck and wide round hoofs will aid greatly in remedying the defects of the sire, for although mules inherit to a great extent the shape and peculiarities of the sire, they derive their size from the mare, seldom showing her bad shape or unsoundness.

The mule foal is not so strong on its limbs as the horse foal; it does not grow as quickly and should not be set at heavy task work until fully matured or much permanent injury may result. It is longer reaching maturity and of little use under four years of age, but it is useful for a longer period than the horse, often working until it is twenty or even thirty years of age.

It possesses the sobriety, patience, endurance and surefootedness of the ass and the vigor, strength and courage of the horse. As a beast of burden it is preferable to the horse as it is less impatient under heavy draught or weights, while the skin, being harder and less sensitive, renders it more capable of resisting sun and rain.

The mule is very frugally and economically fed, and, although it is true that he will accept food rejected by his half brother, the horse, it pays to deal generously with him. He is equally good for carrying as for drawing loads; he walks well and steadily, easily traverses the worst roads or paths and picks his steps by the side of a precipice with the surety and safety of a goat.

For hot and dry countries, especially those that are mountainous, he is well adapted. Among the Greeks he had a name which meant a mountaineer.

The mule, like the ass, enjoys an extraordinary immunity from disease. After the campaign in Egypt in 1882, the English horses suffered more extensively and severely from a kind of malarious fever, but the mules were entirely exempt.

A similar exemption has been noticed during the prevalence of epizootic maladies at other times; nevertheless, those diseases which attack the mule run their courses with great rapidity, for example glanders, which often appears in the chronic form in the horse, is most acute in the mule and ass.

In the choice of breeds we have considerable room for selection. The use which we wish to make of it would doubtless influence our choice of parents. If size and strength are the important qualities sought, the Poiton Jack would probably fill the requirement. Poiton is a district of France. Then, there are several fine breeds from Spain to which the breeders of California are quite partial. To most American breeders the American Jack is the "Summum Bonum" (chief good) of all mulish excellence. He is a combination of all the various imported excellencies, and is claimed to have larger feet and larger and stronger legs than any one of the imported breeds. Should you happen to desire a small mule, for mountain climbing, the Maltese Jack would meet the demand.

Some California breeders have used mothers selected from broken down city stock, which might or might not make good mule mothers. To obtain the most desirable results one should exercise great care in the selection of the maternal ancestor.

The mule is not useful in very cold, wet, or muddy countries; California gives him an ideal home, with its hot, dry climate.

A certified dairy is to be established by U. Hartmann on his 150-acre ranch near Ripon.



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BECAUSE YOUR WASTE IS greatest and quality of product poorest in mid-summer when the milk supply is heaviest.

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BECAUSE THE LOSSES OF the poor separator from incomplete skimming and the tainted product of the hard-to-clean and insanitary separator are greatest at this season. counts

BECAUSE OF THE GREAT economy of time at this season in having a separator of ample capacity to do the work so much more quickly.

BECAUSE AN IMPROVED DE Laval is so much simpler and more easily handled and cared for than any other, and you cannot afford to waste time these busy days "fussing" with a machine that ought to have been thrown on the junk-pile long ago.

BECAUSE THE DE LAVAL SEParator of today is just as superior to other separators as the best of other separators to gravity setting, and every feature of De Laval superiority counts for most during the hot summer months.

These are all facts every De Laval local agent is glad of the opportunity to prove to any prospective buyer. If you don't know the nearest De Laval agency simply write the nearest main office, as below.

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DAIRYING.

Sixteen grade Holsteins were purchased recently by J. E. Burney of Waukena from R. C. Sturgeon of Tulare.

A daughter of the champion milk producer, Pearl of Venedera, owned by Guy H. Miller of Modesto, has been purchased by H. V. Traynham of Williams.

A public sale of Jerseys, the property of Roy Sage, was held in Gardena, Cal., on June 18. It was a fair success, the offerings being small and only in fair condition.

The California Central Creameries Company's dried milk plant at Ferndale burned down last week and the company will not be able to manufacture any more dried milk this season.

A shipment of 420,000 pounds of butter left San Francisco on the liner Moana for Australia on June 23. This brings the season's shipments to nearly a million and three-quarters pounds.

Butter from the Central California Creameries, under the name "Golden State Butter," was given the highest awards at the Panama-Pacific Exposition in competition with the rest of the world.

McAlister & Son of Chino state that they intend to hold a consignment sale of Holstein cattle in conjunction with A. W. Morris & Sons of Woodland at Sacramento the first week in November. About 150 head will be sold, of which McAlister & Son will consign about 80.

The Allison Ranch of Turlock write us: "We have just shipped in from San Diego county two carloads of choice dairy cows. It takes a little time for them to overcome now rested and will soon be in good such a trip and change, but they are shape."

To the Editor: We have just completed our second sale of a herd bull to the Whittier State Reform School. Mr. Taylor of the Whittier State School selected this bull after carefully examining a large number of bulls not only in California, but from many of the best herds in the East. He is sired by a son of King Segis Pontiac, who is the sire of the $50.-000 bull, King Segis Pontiac Alcartra, and the $20,000 bull calf, King Segis Pontiac Chicago. His dam, De Kol of Valley Mead, has a record of 25.005 pounds butter and 584.2 pounds milk in seven days. One of her daughters, De Kol of Valley Mead 2d, has recently made over 1,000 pounds of butter in a year, and she holds the world's record for an average of a three-year and four-year-old yearly records.

Chino. McAlister & Son.

HORSES AND SWINE.

The Allison Ranch of Turlock report the sale of Berkshire boars in June to F. H. Sharpe, Dixon, and C. S. Coke of Newman.

An order has been received in Eureka, reported to be from the French Government, for 1000 horses; and agents are scouring the ranches for stock to fill it.

T. H. Gilroy of the Guyton & Harrington Mule Company of Kansas City is in Sacramento looking over the local stock market in the interests of his company.

Agents for the English Government are reported to be in the northern California section buying all available horses for cavalry use.

A peculiar disease affecting the throats and jaws of the animals has developed in the horses in some sections of Tehama Co. The disease has the appearance of foxtail jaw, but is more severe. So far, no deaths have resulted from it, however.

Notwithstanding the fact that the 1915 pig crop is perhaps the largest ever produced in this country and health conditions are perfect, packers of the East are apparently not as anxious for the severe break in hog values in June as usual. It is now thought that, although the June run will be liberal, it will not go down to $7.00 per cwt.

The influence of the war demand for horses is being felt in the East, as is shown by the increased receipts at the Chicago market this year over last. There are now two British and two French representatives regularly installed in that market. The standard price for horses accepted is $135 to $150 for riders and $145 to $200 for gunners. Orders for horses from commercial sources are said to have been about all filled.

A report from Los Angeles is to the effect that the British government has commissioned John W. Snowden to purchase every available horse and mule in southern California that complies with requirements for shipment to England for military purposes. It is evident that before the war is ended, California will have been fairly well cleaned up of the military type of horses with which we have been over-supplied for sometime.

CATTLE AND SHEEP.

Two hundred sheep belonging to G. N. Merritt of Woodland recently succumbed to an unknown disease.

Twelve cars of cattle were recently shipped from Oakdale, the bulk going to the Western Meat Company.

It is reported that Miller and Lux have recently purchased 10,000 Ari-

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DAIRY CATTLE.

REC. HOLSTEINS—We offer choice grandsons of King Segis, also gandsons of the world's record cow. Creamelle Vale; blood that increases the value of your herd. Write or call and see our herd. F. H. Stenzel, San Lorenzo, Cal.

REGISTERED HOLSTEINS—Young bulls sired by King of Riverside and Lakeside Model Prince from A. R. O. dams. J. H. Harlan Co., Woodland.

FOR SALE—About 60 head of fine dairy heifers from 6 months to 2½ years old. Grade Jersey and Holstein. J. B. Smith, 226 Alameda Ave., San Jose, Cal.

AYRSHIRES—For sale, fine young bulls from imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

REG. GUERNSEY BULLS for sale. Grapewild Farm, Mayhews, Sacramento county, Cal. A. B. Humphrey, Prop., P. O. Box P.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class, thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

JOHN LYNCH, breeder of Registered Shorthorns. Milk strain choice. Young stock for sale. Box 321, Petaluma, Cal.

FIVE REGISTERED HOLSTEIN cows and four heifers priced for quick sale. K. W. Abbott, Milpitas, Cal.

REG. JERSEYS—Herd established 1868. Young bulls from best cows. Rancho Dos Rios, R. 2, Modesto.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

HOLSTEIN BULLS—Pure-bred yuung Holstein bulls for sale on Thompson Bauch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

REGISTERED GUERNSEYS—Both sexes for sale. Mrs. Charles G. Lathrop, Stanford University, Cal.

REGISTERED HOLSTEINS—A. W. MORRIS & BONS, Corp., Importers and Breeders, Woodland, Cal.

RECISTERED HOLSTEIN BULLS from A. R. O. dams. J. W. Benoit, R. 2, Modesto, Cal.

CREAM CUP HERD—Registered Holsteins. Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED JERSEY CATTLE—Young stock for sale. W. J. Hackett, Breeder, Ceres, Cal.

PELANDALE HERD of Reg. Holsteins. Young bulls for sale. J. A. Pelanda, Salida, Cal.

SUNNYSIDE HERD—Registered Holstein cattle. R. F. Guerin, R. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Glikerson. Stratford, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma.

REGISTERED JERSEYS—Young males for sale. O. J. Ames, Oakdale, Cal.

HOLSTEINS—Registered exclusively Tuberculin tested. Linwood Farm, Santa Cruz, Cal.

BREEDERS OF REGISTERED HOLSTEIN CATTLE—McAlister & Son, Chino, Cal.

BREEDER of Registered Holstein Cattle. Ernest Otto McClure, R. 2, Modesto, Cal.

N. H. LOCKE CO., Lockeford, Cal.—Choice young Jersey bulls for sale.

PACKWOOD FARM HERD for Holsteins. W. F. Mitchell, Visalia, Cal.

HORSES AND MULES.

PURE-BRED Registered Percherons—A few choice young stallions two years old; also two, three and four-year-old fillies, majority in foal, for sale. Los Altos Stock Farm, Los Altos, Cal.

FOR SALE—Large 15-months-old mule. Halter broken. T. G. Hester, Morgan Hill, Cal.

BEEF CATTLE.

HOPLAND STOCK FARM—Registered Short-horns. Prices on application. Hopland, Cal.

SIMON-NEWMAN CO., Breeders of registered Herefords. Newman, Cal.

TWENTY Shorthorn Bulls from Nebraska. G. A. Murphy, Perkins, Cal.

FINE RECISTERED HEREFORDS—Charles Rule, Breeder and Importer, Duncan Mills, Sonoma Co., Cal.

SWINE.

MODESTO HERD LARCE YORKSHIRE SWINE—For sale. Boars ready for service. Satisfaction or money refunded. Can show you splendid results from crossing with common sows. More pigs per litter; more pounds per pig. Riverina Farms, R. F. D. 2, Box 74B, Modesto, Cal. For pedigrees and prices, write A. D. McCarty, 201 Sansome St., San Francisco.

BILLIKEN HERD of pedigreed O. I. C. Swine; weaned pigs of both sexes ready for immediate shipment. Pairs and trios mated, not akin. All from big type stock of extra heavy bone. Immunized against hog cholera, crated and registered free. Write for descriptive circular and price list. C. B. Cunningham, Mills, Sacramento County, California.

HOCS—Forty head of Big Type Poland-China boars of any age. Sired by Iowa Wonder, who is a son of A. Wonder, the greatest hog living or dead. No females to sell at present. On account of the large number on hand will make special prices. Geo. A. Smith, Corcoran, Cal.

REG. BERKSHIRES—Fine 3 months old pigs, both sexes, by Panama Lee, Gold Medal Winner at 1914 State Fair. Also bred sows. C. E. Barrows, Los Molinos, Cal.

BERKSHIRES—Bred sows, service boars and young pigs. Brae Bourne Ranch, R. 3, Box 172, Santa Rosa, Cal.

BERKSHIRES—Headed by Bandmaster 2nd, junior champion Iowa State Fair. My females were winners at Iowa, Wisconsin and Minnesota State Fairs. Farm at San Mateo. Address W. M. Carruthers, 218 Hearst Bldg., San Francisco.

A FEW BERKSHIRE BOARS for sale. Age 3 to 6 months. Sir Falstaff at Bookhaven No. 185,324, Dan Sebastopol Countess No. 184,511. J. M. Robinson, Sebastopol, Cal.

BLATCHFORD'S PIC MEAL weans easily and safely; no trouble; no milk. Write for free folder, "The Safety Route from Pighood to Porkage." Coulson Co., Petaluma.

RECISTERED DUROC-JERSEY BOARS from prize-winning stock. Cholera Immune. From 12 to 16 weeks old. D. W. Hobson Co., 819 J St., Sacramento.

RECISTERED, PUREBRED BERKSHIRE PICS—(Weanlings) both sexes. Reasonable prices. Write for full information. J. E. Hall, Sebastopol, Cal.

RECISTERED BERKSHIRES — Weanling boar pigs, $10.00 each. A few older boars. J. M. Bomberger, Modesto, Calif.

REGISTERED BERKSHIRE SWINE—All ages, for sale. Grapewild Farm, Mayhews, Sacramento, Cal. A. B. Humphrey, Prop., P. O. Box P.

25 POLAND CHINA SPRING BOARS—Jan., Feb., March farrow. Prices, registered and crated, $20, $15, $10. Edwd. A. Hall, Watsonville, Calif.

DEL DAYO FARM—(Old Haggin Bottom Ranch)—Breeders of Registered Berkshires, both sexes for sale. P. O. Box 1140, Sacramento, Cal.

GLENVIEW POLAND-CHINAS—Baby pigs from best families for sale. From $15 up. Chas. R. Hanna, R. 3, Riverside, Cal.

RECISTERED BROOD SOWS and their weanlings. Quality, health and vigor. Boars, all ages. F. H. Wilson, Turlock, Cal.

IMPERIAL STOCK FARM BERKSHIRES—Quality and price guaranteed to satisfy. R. J. Merrill & Son, Morgan Hill, Cal.

BERKSHIRES—Utility and Choice Registered Pedigree stock. Correspondence solicited. C. H. Thompson, Novato, Cal.

BLUE-RIBBON HERD DUROC-JERSEY HOGS—Bred Gilts a specialty. 15 bred now, 20 ready to breed. Sires and dams win all blue ribbons 1912, 1913, 1914 State fairs. 15 first, 13 seconds, 6 thirds, 7 fourths, 1 fifth. Will show 1915. For prices, write Jno. P Daggs, Modesto, Cal.

REGISTERED BERKSHIRES for sale. All ages Boars ready for service. Stanislaus Ranch Co., Crow's Landing, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in State. $20 up. M. Bassett, Hanford.

BLACK ESSEX PICS—Only herd on the coast. Limited number weanlings, either sex. L. W. Millsap, Yolo, Cal.

RECISTERED DUROC-JERSEYS from Eastern sows Six months gilts and boars. S. S. Southwick, Napa, Cal

REGISTERED POLAND-CHINA HOGS—Cholera Immune. W. D. Trewhitt, Hanford.

POLAND-CHINAS—Prize-winners. Money-makers B Bernstein, Hanford, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

POLAND-CHINAS—Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

POLAND-CHINAS — Prize-winners. Satisfaction or money back. Geo. V. Beckman, Lodi, Cal.

RECISTERED DUROC-JERSEY SWINE—Las Pedera Ranch, El Cajon, Cal. M. S. Allen, Manager.

REGISTERED POLAND-CHINAS — Young stock for sale. Hewitt & Hewitt, Hardwick, Cal.

RECISTERED POLAND-CHINAS and Durec Jerseys. T. H. Beckman, Lodi, Cal.

KNOB HILL STOCK FARM—Registered Poland-China swine. A. M. Henry, Farmington.

REAOAKS RANCH herd of registered Poland Chinas. W. J. Hanna, Gilroy.

REGISTERED BERKSHIRES—Young stock for sale F. W. White, Elk Grove, Cal.

BERKSHIRE BOAR PIGS—Butte City Ranch, Butte City, Glenn Co., Cal.

CHAS. GOODMAN, Breeder of high-class Berkshire Swine. Williams, Cal.

BOARS—BOARS—BOARS—Registered Durocs. J. M DeVilbiss, Patterson.

REGISTERED O. I. C. SWINE—C. D. CONWAY, Lakeport, Cal.

POLAND CHINA HOCS—Registered. R. J. Miller Llewellyn Ranch, Lathrop.

DUROCS—A few bred gilts, boars and gilts left. E. C. Curtis, Napa.

DUROCS—Weanlins only. H. K. Bowdler & Son. Napa, Cal.

POLAND-CHINA HOCS—C. A. Stowe, Stockton, Cal

SHEEP.

FRANK MEACHAM, Petaluma, California.—Breeder Shropshires, Rambouillets, American Merinos, both sexes Take electric car at Santa Rosa or Petaluma for Live Oak.

WANTED—A good Lincoln lamb ram. Would like to hear from Northern California breeders. James T Peterson, Lassen, Lassen Co., Cal.

YEARLINC SHROPSHIRE BUCKS for sale, single or carload lots. J. R. Bloom, Dixon, Cal.

BULLARD CO.—Breeders and Importers of Rambouillets. Hanford, Cal.

CHAS. KIMBLE, Breeder and Importer of Rambouillets, Hanford, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers Shropshires.

MISCELLANEOUS.

OWINC TO THE MANY requests of our customers to give them information as to where they can buy or sell dairy stock, we have established a livestock bureau in connection with our office. For anything in this line write us. V A. Peterson Alfalfa Seed Co., Arbuckle, Cal Sanofice.

The Guernsey

IS popular among dairymen who appreciate that Economical production, Richness and Fine Flavor of products lead to larger profits. Try Guernseys and be satisfied

Write for free literature.

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FOR SALE

Pure Bred and Registered Polled Angus

Bulls

from the most fashionable families including Queen mothers, Heroines, Blackbirds, Prince Ito's, Ericas and Prides. I purchase individuals nearly every year at the International at Chicago. I can refer by permission to Prof. Gordon H. True of the University of California.

A. W. LONGLEY,

Bishop, Inyo Co., Calif.

zona yearlings to ship to their California ranches.

Three hundred and forty head of cattle were recently shipped by Robinson Bros. of Merced from their Portland, Ore., range.

Lambs from California, Idaho, and Arizona have put in an appearance in eastern markets recently, Arizona lambs selling at Kansas City on the $10 basis.

A report from the East states that but for Iowa's weekly contribution, the Chicago markets would be practically bare; and that fat cattle are not plentiful at any of the Missouri river markets.

A carload of purebred Hereford stock was recently received by dairymen of the Poplar district in Tulare county from a stock farm in Sacramento. These will be used to improve the stock of that section.

It is reported that both cattle and sheep are doing well on the Arizona ranges and bringing good prices. Late rain put the range in excellent condition. There was a full 90 per cent lamb crop and the animals sold higher than ever before and met a good demand.

The campaign to destroy cattle tick in California, begun in 1907, will be completed during the present year, according to an announcement made by the U. S. Dept. Agr., only a section of San Diego county being infested with the tick at this time. A total of 73,197 square miles has been disinfected at a cost of $126,832 to the Federal Government, $23,523 to the State, and $35,983 to the California counties.

Word just received from the East is to the effect that the Paicines Ranch Company of San Benito county have just purchased from D. R. Hanna of Ravenna, Ohio, the imported Shorthorn bull, Champion of Scotland. Mr. Hanna paid over $3,000 for this bull in Scotland; and according to Frank W. Harding, secretary of the American Shorthorn Breeders' Association, the bull is held in high estimation by the best breeders in North Britain.

MISCELLANEOUS.

A shipment of 6,000 head of cattle from Honduras, Central America, the first in history, is on its way to the East St. Louis, Ill., stockyards.

Two hundred head of cattle were recently shipped from the San Juan and Carissa Cattle Company's ranches of Kern county to the San Francisco markets.

Receipts at the Portland Union Stock Yards for the week ending June 24 were: Cattle, 1136; Hogs, 3686; and Sheep, 3082. Cows are quoted at $5.75 to 6.25. With a good run of hogs, the market opened at $7.85 for top stuff, going down 10 cents toward the end of the week. Sheep receipts were light with good quality stuff. Choice lambs are quoted at $7.14; ewes at $4.75; and wethers at $5.50.

Oleomargarine tax frauds are estimated to have amounted to $27,000,000 during the 13 years the present law has been in force. Since 1902 over 200,000,000 pounds of colored oleo are said to have been sold as uncolored oleo or butter. The tax on the colored article is 10 cents per pound, but only ¼ cent on uncolored. Fines aggregating $148,000 have been imposed, $851,000 of the tax fraudulently withheld has been recovered, 29 violators have been sentenced to prison and 10 others await trial.

EXPOSITION MILK SHOW.

Nearly 2500 bottles of milk and cream were shipped from 25 states and various portions of Canada to the International Milk and Cream Show at the Panama-Pacific Exposition June 14 to 19. Practically every large city was represented either by individuals or firms. Prof. L. M. Davis of the University Farm at Davis, Cal., superintended the show and assisted with the judging and the various tests. The chemical and bacterialogical examinations were each made by experiments in the laboratory of the University of California. The California winners were: Harold Okell, Florence, second prize in Market Milk Producers' Class; Kell's Dairy, Stockton, first in Market Cream Producers' Class; Kell's Dairy, Stockton, second in Pasteurized Cream Class; Hutton Bros., Dixon, third in Certified Milk Class; Agricultural Experiment Station, Berkeley, first in College and Experimental Station Milk Class; Agricultural Experiment Station, Berkeley, third in College and Experimental Station Cream Class.

INTERESTING MEETINGS AT FAIR.

Pacific Coast Ass'n. of Nurserymen, Auditorium, S. F., Aug. 12-14; Cal. Ass'n of Nurserymen, Aug. 12-14; Nurserymen's Day at P. P. I. E., Aug. 16; American Rose Society, Auditorium, Aug. 17-19; Society Amer. Florists and Ornamental Hort., Nat'l. Ass'n of Gardeners, Florists' Telegraph Delivery, Florists' Hail Ass'n. of Amer., Auditorium, Aug. 17-20; Amer. Ass'n. of Park Superintendents, Auditorium, Aug. 18-20; Amer. Pomological Society, Berkeley, Aug. 23-25.

Sixteen thousand acres is the estimated acreage planted to rice in Butte county this season; and as the fields are growing rapidly, growers expect a record-breaking crop this season.

BARGAIN

Foundation Holsteins

6 Registered Cows for Sale at a Sacrifice

This strain, headed by Ignaco de Kol, produced such cows as Aralia de Kol, 30 lbs. butter in 7 days at the age of 12 years and Juliana de Kol, world's record heifer for 8 years.

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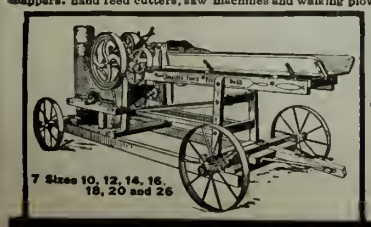
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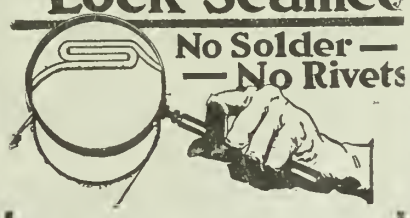
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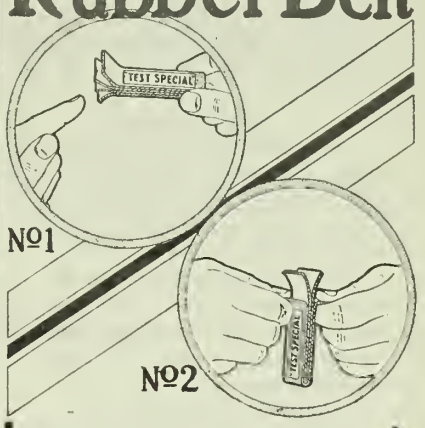
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This time test the belt for flexibility. The grade of cotton duck used in a rubber belt is an important factor. For Power transmission the duck must be flexible, not hard or stiff.

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TEST SPECIAL contains the best grade of cotton duck. The rubber which cements the plies together is pressed into every thread and fibre of the duck.

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Whether intended for show or market, the hog attains perfect condition and more quickly and economically if his ration includes some **DIGESTER TANKAGE.** The growing pig needs **DIGESTER TANKAGE** as a bone and muscle builder. Write for free pamphlet on hog-feeding. **WESTERN MEAT COMPANY,**

Animal Food Dept., 704 Townsend St., San Francisco, Cal.

Veterinary Queries and Replies.

[Answered by Dr. H. H. Wintringham, Petaluma, Cal.]

FISH OIL SPRAY FOR FLIES.

To the Editor: Will you kindly give me a better mixture for spraying cows and horses than the one printed in the Pacific Rural Press June 19. —F. S., Live Oak.

[Fish oil is the basis of most fly repellants and may be used by itself. All sprays for this purpose evaporate quickly and have to be repeated as needed.]

PIGS SHAKE.

To the Editor: I have some young pigs that cannot stand still. They shake like a pig does when he is cold. Kindly inform me what is wrong with them and is there any cure.—Z. W. Q., Porterville.

[Your pigs have the thumps. Cut their ration in half. Give each 2 oz. epsom salts, then 2 drachms aromatic spirits ammonia every two hours until relieved.]

RED SPOTS; THEN SORES.

To the Editor: One of my cows has small sores on her teats and bag, which look as though the skin had been knocked off. It dries and forms a light scab. Before it becomes a sore, there appears a red spot under the skin. I have examined them as well as I can and do not find any pus under the scab before it peels off the first time. Otherwise, I would think it cow-pox. Tell me what the trouble is, and a remedy so that it will not break out again. The teats do not seem to cause the cow any pain or soreness when milking her. —J. H., Hammonton.

[Your cow has cow-pox. Get some carbolated vaseline and apply to the eruptions as needed.]

HORSE COUGHS IN MORNING.

To the Editor: Please tell me the quickest way to get rid of a horse's cough.

I bought a horse two months ago and soon found out that he was bothered with what I supposed to be an old cold. He coughs only between 3 and 5 o'clock A. M.; eats well and works the same. His nose runs very little and seldom extricates one or two pieces of matter.

I give him night and morning hot bran and barley. Seems to improve, but the cough doesn't diminish. He is eleven years old.—P. D. G., Campbell.

[Give your horse ½ oz. doses Fowler's Solution three times a day.]

ONE TEAT DRY.

To the Editor: Please tell me what is the matter with my cow. This is her first calf and she only gives milk from three teats. The teat is perfect in size and shape, but I have milked it, also let the calf suck at it but can get only about a tablespoonful of milk from it. At first I thought the milk would come in it later by milking it or letting the calf suck it. This is the seventh day and still there is no milk. All the udder seems to be perfect in every way except that one teat. The swelling is all gone. Please tell me if possible what is the cause and a remedy. At first I also thought there were no holes in the teat, but there are and it milks perfectly easy.—G. M. D., Uno.

[Call in a competent veterinarian, as an operation is probably necessary.]

FLEAS OBJECT TO SHEEP.

To the Editor: Can you recommend anything to be done to get the great numbers of fleas which infest the barn and corrals? We have hogs, and understand that fleas usually appear where they are, and would like to know if the usual dipping for lice will control the fleas; also if there is anything that can be used about the house to drive out the fleas brought in on the clothing.—E. B., Linden.

[Get a small band of sheep, say about 20, and keep them confined to your hog corals and quarters. In a period of about one month you will note a decided decrease in the flea population which eventually will be almost decimated. The writer had a similar experience and knows whereof he speaks. Use powdered naphthalene and sulphur equal parts to sprinkle about the house and beds.]

DRY COWS BEFORE CALVING.

To the Editor: I have a young Jersey cow about which I would like to ask a few questions. She is due about August 9 to have her second calf. Is it proper to milk her up to the term she calves, or dry her up about three weeks before her time? She is very nervous at times when milking, continually stepping, especially when milking the left front and right front teats. She hardly moves when milking the other two. She eats and drinks very well and is full of life. What can I do to prevent her? Her bag is not caked; in fact, she is perfectly sound in every respect.—J. E. B.

[Dry your cow up two or three weeks before she calves. Her nervousness is due to her condition.]

COW HAS BLOODY DISCHARGE.

To the Editor: My cow, second calf last February, has been taken to the bull upon three different occasions, but has not conceived. Last week, during my absence from the ranch, she came in heat again and was taken to the bull. The calf born last February was a large one and for days after she had cleaned, she would pass a small quantity of bloody matter once and awhile. These discharges stopped after a while, and I noticed that after she had been in heat this last time, that she passed some more of this same bloody substance but only enough to smear her tail. She appears to be O. K. otherwise.

Have a horse between four and five years old, weighs between 1300 and 1400 lbs. For the past week or so he has been stopping while in harness, to urinate. Of course, this is not unusual, but as he stops on an average of three or four times during the morning and the same number of times in the afternoon, something must be wrong. He will stop, get into position to urinate and pass very little water compared to the quantity generally passed by horses. I have noticed the same actions when he is out of harness. His appetite is good and he drinks about as usual.—R. H. M., Orangehurst.

[Douche the vagina once a day one week with a 2 per cent solution Cresol, using one gallon of this and placing it well within the cavity with a hose. After one week use for the douche one gallon of water in which is dissolved ¼ lb. soda bicarbonate. Use this for another week. Give your horse one ounce of powdered potassium nitrate in his feed twice a day for one week.]

For Sale

800 Unrecorded Pure-Bred

Shropshire Ewes

in lots to suit.

These sheep are large and in fine condition. Can be seen near Firebaugh. Price on application.

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THE SUCCULENCE AND PALATABILITY OF perfect ensilage produces maximum results at a low feeding cost.

NO OTHER FEED contains as much "succulence value" as well preserved ensilage.

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TO MEET THESE REQUIREMENTS, a silo must be of such design, material and workmanship that it will be for many years just as serviceable as when first erected without its being necessary to rebuild every year.

THE IDEAL GREEN FEED SILO will keep ensilage as fresh and succulent all the year as the day the corn was cut.

ERECT AN IDEAL GREEN FEED SILO and stop silo troubles forever. Built of California Redwood, it will last a generation.

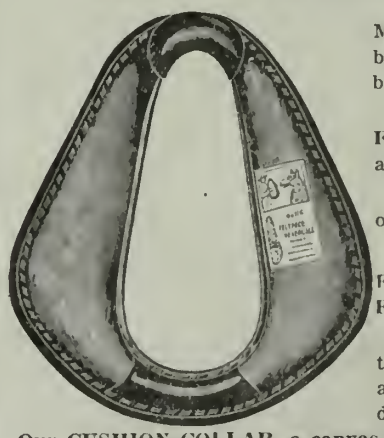
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More shoulders are being ruined by poorly-constructed collars than by the work the animals are doing.

W. DAVIS & SONS' FELTFACE COLLARS are guaranteed to prevent sore shoulders.

Look for the felt at the edge of the stitching.

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FELTFACE, medium draft, $5.00
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Our CUSHION COLLAR, a canvas and leather Boston Team Collar, is now to be had for $3.00.

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ATTENTION, SHEEPMEN.

My pure-bred, range-raised yearling Shropshire and Merino rams are now out of the mountains and ready for inspection at my place.

Shropshires sired by rams imported by me from England in 1911.

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50 Grade Shorthorn Bulls

These bulls are about 15 months old, California bred, thoroughly acclimated, vigorous and fast growing.

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LARGE AND MEDIUM TYPE
A Wonder and Giantess Stock.
Prize-Winners of either type. Several very fine young boars and a few bred sows for sale.
We guarantee to please or refund your money.
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All Stock Registered.
Bulls of Highest Quality.
YOUNG SOWS AND BOARS of finest
Breeding and Type
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Dealers In PAPER
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Blake, Moffitt & Towne. Los Angeles
Blake, McFall & Co., Portland, Oregon

Cauliflower $325 Per Acre.

[Written for Pacific Rural Press.]

"This valley beats anywhere for cauliflower and head lettuce. Cauliflower especially needs cool, moist weather and workable soil. It doesn't head well during hot, dry weather, but runs to seed too soon." The Arroyo Grande valley, in which R. M. Plympton lives, is about ten miles long and perhaps 1½ miles wide on an average and is open at the lower end, to the ocean, so that there is a great deal of morning fog and comparatively cool weather during the summer and fall months. The soil is what has been washed down from the foothills and varies up to twenty feet deep, of heavy and light loams and gravelly soils. Mr. Plympton's is a light soil.

Two crops every year on the same land make cauliflower an especially paying proposition. Potatoes are planted in February unless it rains all through February, as it did this year. No fertilizer is applied before the potatoes, but after they are dug in June ten or fifteen tons per acre of manure are added, working over the whole vegetable garden as often as possible at that rate.

Western Seed Preferred.—About all the cauliflower that Mr. Plympton can attend to is grown on two acres. The seed is drilled in large open beds by hand with a Planet Junior drill about July 1. Sometimes another planting is made two or three weeks later to extend the season. Both early and late varieties are used so that heads may be marketed from November to February, all through the rainy season. For the early variety, Mr. Plympton prefers the Early Snowball, but the late variety, California Mammoth, the seed of which is obtained from Los Angeles dealers, makes large late heads of fine quality. Seed obtained from the East was used once or twice, but results were "sorry." Plants from poor seed do not head, but go to seed too soon. The California Mammoth makes exceptionally large, compact, solid heads, an example of which may be seen at the Panama-Pacific Exposition as exhibited by J. E. Parrish, a neighbor of Mr. Plympton. One of the latter's own cauliflowers was taken early in March to the Arroyo Grande Record office . It measured 12 inches in diameter, 42 inches in circumference, and weighed 13½ pounds.

Transplant in August.—All the early potatoes are dug by the end of July, and manure which doesn't contain two much straw is applied as mentioned. Furrows about two feet apart are then plowed for the irrigation, and the ground is allowed to dry five or six days until it can be well worked. Drying here is slow on account of the morning fogs. As soon as the ground is ready, it is plowed twelve inches deep and harrowed. When the plants are about three inches tall, which is at the age of four to six weeks, the large ones are pulled and transplanted. This work usually continues all through August. All of the leaves of each plant are broken off except those which form the heart. If these are broken, the plant is thrown away.

When the cauliflower is set on the level, it is watered by hand, as planted. A garden trowel is used and the dirt is not pressed around the plant. Water is poured on, and when this has settled away, dirt is filled in, being careful not to cover the heart. If the watering is to be done by irrigation, small furrows are plowed with a cultivator and the plants set in the sides of the furrows about half way up. Water is run through the furrow very slowly to settle the dirt, and after about ten days when it has dried out enough in the ditch, a tooth harrow stirs the ground.

No shade is needed, on account of the fog. Very few of them wilt anyway, and it would be too big a job. The early varieties are set eighteen inches apart in rows two and a half feet apart, while the late varieties are set six inches farther between plants. After the harrowing, the weeds are hoed out between the plants, and the patch lies two or three weeks depending on how foggy or dry the weather is. Then a small furrow is run down the center between the rows and the irrigation is followed by cultivation every three weeks. A shovel cultivator stirs the ground deeper as the plants grow larger. When the leaves are so large that they become injured, furrows are left and no more cultivation follows; but the cauliflower is irrigated every three weeks or oftener if the weather is dry and hot. Care must be used, as too much irrigation turns the leaves yellow. November rains make further irrigation unnecessary.

Cut When Begins to Separate.—It took a long time to learn to cut the cauliflower at the right stage. Sometimes it looks all right when still immature. In such cases, a delay of three or four days greatly increases the weight and price without hurting the quality. When such heads are found in the regular semi-weekly picking, the leaves are broken over them so they will not sunburn, or get dirty, or turn yellow, and so the rain will be kept off. Too much rain is likely to hurt the heads. The cauliflower is ready to cut when the sections of a head spread out just enough to show very slightly the lines of separation between them. Plenty of big leaves are left around each head until they are trimmed at the house. If the cauliflower is to go a long distance, more leaves are left on to protect the heads from dirt and injury. All the trimmings are fed to the chickens.

No Grading.—Vegetable crates 20x22x24 inches are packed with about three dozen heads per crate, weighing 110 to 125 pounds. Two years ago, the heads were graded into three sizes. The small size went about three and a half dozen per crate and sold at fifty cents per dozen wholesale; the largest size packed two dozen per crate and sold at $1.00 per dozen; the intermediate size was 75c. There were not so many of the largest size, but some of the dealers objected to the $1.00 price. Anyway, packing all one size takes too much room. They pack better with little heads between, and this was practiced the past winter by Mr. Plympton. It makes a heavier crate, but the price was 60c per dozen. This gives about $325 per acre.

Whenever any cauliflower is ready for market, Mr. Plympton drops a card or telephones to his regular wholesale customers in Lompoc, Paso Robles, San Luis Obispo, and Arroyo Grande, and has no trouble to dispose of it, shipping it by express collect. Prices are set simply by inquiry among various growers and at the stores.

Stanislaus county is first, Imperial second, and Humboldt third in dairy products, according to the California Development Board.



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EUREKA HARNESS OIL

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Water Troughs, Windmills, Frames, and Towers,
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Prices the lowest.
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CHOLERA IMMUNE.
Our herd is Cholera Immune, the only Immune Berkshire herd in the State.
Five herd boars in use and they are second to none on the coast. Our sows are of equal merit.
We have at present some 300 Berkshires and we know that we can supply what you want.
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Expert Live Stock Auctioneers
Sales conducted in all parts of California and adjoining States. Write for dates and terms.
Twenty-five years' experience.
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T. R. Jacobs says: "Not only can the chicks from fall hatches be made to return a maximum of profit, but it is quite possible to have a very even supply of extra quality eggs during the whole twelve months by dividing the year into three hatching perlods."

Hatch Chicks This Fall.

[Written for Pacific Rural Press by Geo. H. Croley, President Federated Poultry Ass'n. of California.]

Our series of articles regarding fall-hatched chicks has created a widespread interest in that feature of poultry culture in this State. Apparently a very large number of California poultry keepers have imagined that fall hatching not only required unusual care, but resulted in an increased percentage of mortality, besides tending to influence a reduction instead of an increase in the size of the stock. It can be safely stated that it requires no more care, but naturally the chicks must be handled somewhat differently. For instance, if the soil is adobe, the chicks must not be allowed to run on the adobe when it is wet or they will get tbeir toes covered with balls of hard earth that interfere with their free action and cause injury through exbaustion. Under such a condition, the chicks can either be kept under cover or confined by an enclosure in which the ground has been covered with straw or a thin layer of soil that when wet is not as sticky as adobe. This and other peculiar circumstances caused by climatic conditions or location can be met by ordinary fórethought or gumption; and may, therefore, be considered as trifles by anyone possessing only a very moderate determination to succeed.

T. R. Jacobs, who has been connected with poultry production in California for over thirty-five years and who has made a business of hatching and raising chicks for others in many parts of the State, says: "Not only can the chicks from fall hatches be made to return a maximum of profit, but it is quite possible to have a very even supply of extra quality eggs during the whole twelve months by dividing the year into three hatchery periods, provided that electric light is available for use in tbe roosting and scratching quarters of the laying stock during the short winter days. The lights are intended for use only from about 4:30 a. m. to 6 or 7 a. m. in order to afford the hens an opportunity to get to work early."

William C. Hull, of Mill Valley, says: "I am much interested in the articles that have appeared in the Pacific Rural Press regarding fall hatching of chicks. I had decided to purchase a lot of Ancona day-old chicks during June, but since learning the advantages to be gained by getting chicks hatched in September or October, I will postpone the delivery until then. But why do not breeders who can supply fall chicks advertise them? I am now hunting for a reliable source of supply so that I can place my order in advance."

Samuel A. Wells, formerly an extensive breeder and ex-president of the California Leghorn Club, states that his experience with fall and winter hatched chicks was very satisfactory. He contemplates putting in a large flock of Black Leghorns and want to arange for a lot of day-old chicks of that breed for delivery on or about October first.

Farm Poultry for Profit.

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

With the warm days, hens begin to lose interest in cackling, if you don't keep them in fighting trim. When the cackle stops the profit stops, so anything that will keep them cackling is sure a good thing. Now in my years of experience I have found that it pays two-fold to be up before the sun in the summertime. The hens that have range and can get out on it are all right—they will get their breakfast early; but those that are shut up in yards have to wait for the feeder.

Now hens are a good deal like us in some things: They do not care to be out rustling around in the heat of the day—during those hours they need rest in the shade. For that reason they should be fed early in the morning, or if you want to snooze in bed, feed in litter at night after the hens have gone to bed. Then when they get out, they need not spend the really cool hours of the day waiting, but instead they can be filling up for the next day's egg. It is not really the heat that hinders egg production, but it is from this neglect of the feeder to counterbalance tbe effects of a hot day by early and late feeding.

Some years ago a Buffalo man made a three years' test of prolonging the day for his chickens by artificial light and heat. He had a self-regulating clock and switch that turned on the gas at 5 p. m. and off at 7:30 or 8 o'clock; then in the morning it was turned on at 4 o'clock and off at 7:30. Every evening the feed was scattered among the litter so that the minute they left the perches they could commence to eat and scratch. He states that nearly all the hens had laid by 5 o'clock in the morning and that most of them were on the nest again at 5 o'clock in the evening. They averaged ten eggs a week and kept it up for three months without a let up at all. This was all accomplished by artificial light, heat, and a larger and more varied ration.

Where we have two of the things at hand from Nature, that he had to furnish at cost of labor and money, all our hens need is the forehanded man to look after the ration. Two eggs a day would not make us rich at the price we are getting, but there would be lots of fun in getting them, just out of curiosity. Daylight and heat are cheap, a variety of feed can be selected that would not be very costly but would be high in nutrition.

We must keep tbe hens on the job, not necessarily to increase the output but to bold our own. And to this end we should try to make everything as easy for the hens to produce tbe eggs as possible. If they have to wait around during the cool, pleasant hours of the morning, doing nothing toward egg production, then by the time the first meal

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SOLD AT ALL ... Farm STORES

is served the sun is high and the hens seek the shade. They are not going to cackle very freely to fill the egg basket. The poultryman should arrange to supply his hens with a cool drink during the heat of day, as water is absolutely necessary to egg-production, and it takes more to supply the hen's needs than during cool weather, and her needs are always attended to before eggs are considered; Nature looks after that.

Sprouted oats or barley are both good feed for eggs and either one is cheaper than wheat at present prices. Corn, oats and barley are good for variety, but as a steady grain wheat is the standard grain for egg production. Now this is so because it stands high in protein and low in fibre, so that nearly every bit of a kernel of wheat stands for food that takes little of the hen's energy to assimilate. Corn stands next in fibre; but as it is too heating for hot climates, in summer it is not nearly so valuable a feed for eggs as wheat. Sprouting softens the fibre of both barley and oats, making them much easier to digest than they are in a dry state and the labor item is not so great as to cut any figure if a person really wants to make a profit on his hens. Some mash is necessary as a help and it should be served so that the hens can help themselves in the cool of the morning and evening, for it is then that they feel inclined to eat. The poultryman does the providing, keeps his houses free from mites, his hens free from lice, and if the hens are the right [illegible] they will respond with a good, Vin[illegible] cackle, even though the [illegible] a little warm.

[illegible]y Troubles. — There are [illegible] few cases of blackhead. What passes for blackhead is often nothing but liver complaint or bad cases of indigestion. The only sure indication of blackhead is when the head does turn black. The birds should in every case be isolated from the rest of the flock and given special treatment, at the same time keeping a strict watch on the rest of the flock. The best preventive of blackhead is sour milk and sulphur, the milk served as a drink and sulphur put in a little mash food or even made into pills and fed the turks, say, once a week. If no sour milk can be had, put a few drops of aconite in the water to keep the fever down. To cure "blackhead," mix four ounces of ginger, one tablespoonful sulphate of iron, half a teaspoonful of salicylate of soda, add 30 drops of oil of [illegible]entine, and water or milk to anc[illegible] to pills, giving the pills in We[illegible]ilk to the afflicted birds. re[illegible]eather gets hot turkey

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Hopland Sho[illegible] only 5½c per ft.
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[illegible] well casing, from 12-in. to 20-[illegible] No. 10 gauge iron.

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raisers should try to keep the blood cool. Epsom salts in small doses put in the drinking water is a great help; so is sulphate of iron both tonic and cooling. Sulphur acts on both the blood and liver and it should be remembered that small doses are always best unless in times of emergency. Small doses of a drug may act as a tonic, while a larger dose of the same thing will act as a cathartic or an emetic. A few grains of bloodroot will act as a vermifuge and cathartic; while if the size of dose is increased, it is a violent emetic.

Another subscriber says her little turkeys are dying. Unless fuller particulars are given, it is impossible to give advice. For weak baby turks or chicks just to build them up, get a 50 cent jar of Armour's soluble beef; half a teaspoonful makes a pint of beef tea or something of that kind. Anyway it helps tide the chicks over until they can eat more and gain strength.

When the feed stays in the crop over night and feels like a little hard lump in the morning, just give about ten or fifteen drops of tincture of nux vomica in a quart of drinking water. Renew it at the same rate for a few days. Tincture of iron must be used sparingly.

Mr. S. S. S. says his turks are dying of canker under tongue, eyes watery. His turkeys are badly housed and are huddling up at night. He should make them some sort of cover to go under so that they won't crowd, then at night go and spread them out by hand; they won't crawl back at dark. If necessary separate into several small lots. Give a piece of bluestone in the water as big as a pea to a quart, then put powdered bluestone on the canker and scrape off the white.

CARLOAD OF FOWLS FROM SONOMA.

[By Geo. H. Croley.]

While it is not generally known to the people of the State, that portion of Sonoma county immediately surrounding Sonoma City is an important poultry section. The poultry breeders of that district take great pride in the quality of their eggs and are striving to keep pace with other parts of the State in improving the quality and productiveness of their flocks. As a means of keeping up to the minute in regard to the latest improvements in poultry keeping, a number of breeders had determined to visit the Universal Poultry Show at the Exposition Nov. 18 to 28, and a few had considered entering some fowls in the show, but when it became known that the breeders of Sacramento intended sending a carload of fowls to this exhibition, there was a great awakening of the leading poultrymen, which will result in a carload shipment of fancy and utility fowls from Sonoma City. We understand that by employing a car, the entire cost of transporting the fowls to the show and return will amount to only about ten cents each.

NO STATE FAIR THIS YEAR.

Sec'y Chas. W. Paine of the State Agricultural Society writes that California will have no State Fair this year on account of the two big expositions. The Legislature did not appropriate any money for premiums this year.

Classified Advertisements.

Rates, 3c per word. No order for less than 25c per week. If you have anything to sell, or want anything, use these columns.

WANTED.

WANTED—About seventy-five young men and women to enter the WESTERN NORMAL on August 30th, to prepare for teaching. Western Normal graduates secure and hold good positions. We assist graduates to secure good positions and promotion. We save you time and money. For information address, WESTERN NORMAL, J. R. Humphreys, Principal, Stockton, Cal., Box 704.

YOUNG MAN, 20, wants chore work on ranch or chicken ranch near San Francisco, preferably Napa county. Good home important. Wages no consideration. Box 63, this office.

WANTED—A party that understands dry farming in Mojave desert. Room 612, 110 Sutter St., San Francisco.

WANTED—Dried fruits, nuts, honey, beeswax, beans, etc. J. E. Lawrence, 326 Clay St., San Francisco.

MISCELLANEOUS.

SUCCESSFUL FARMERS are buying Lumber from us at wholesale prices. No. 1 dimensions, $9 at the mill. Send us your lumber bill for figures. Our prices are lowest in the country, on quality lumber. Write today for free list. Buy while prices are at bedrock. Pacific Mill & Timber Co., First National Bk. Bldg., San Francisco, Cal.

USE BROOMS MADE BY THE BLIND—All qualities guaranteed. Prices from $2 per dozen up. Send for our price list. Help our blind workers to be self-supporting. San Francisco Association for the Blind,, 1526 California St., San Francisco, Cal.

SECOND HAND WATER PIPE and screw casing. New threads and couplings dipped in hot asphaltum. All guaranteed. Send us your inquiry. SHECTER PIPE WORKS, 306-8 Howard St., San Francisco.

LIVING EXPENSES REDUCED THROUGH CO-OPERATIVE BUYING.—Open to all. Write for catalog and particulars. Organizers wanted. Pacific Co-operative League, Dept. D, 236 Commercial St., San Francisco.

SQUIRREL DESTRUCTORS — Government Pat. Bisulphide pumps, $10 each, completely equipped (without bisulphide). Every machine guaranteed. Cal. Sheet Metal Works, 1722 Market St., San Francisco.

"SMITHS' PAYS THE FREIGHT."—To reduce the high cost of living send for our Wholesale to Consumer Catalog. SMITHS' CASH STORE, 106 Clay St., San Francisco.

PROTECT YOUR IDEAS—Write for free patent books. Patents advertised for sale at our expense. Advice free. Pattison and Company, 971 G Street, Washington, D. C.

COMMERCE AUTO TRUCKS—Brand new. Regular price, $1075 f. o. b. San Francisco. $950 if you buy it now. Box 54, Pacific Rural Press.

TREES AND NURSERY STOCK

BURBANKS SPINELESS CACTUS—Hardiest varieties Melrose and Special. Strong, mature slabs, $8.50 per 100; $50 per 1000. Labranza Ranch, Athlone, Merced Co., Cal.

GENUINE BURBANK SPINELESS CACTUS—Strong, mature slabs, $6 per 100—$50 per 1,000. Thos. Cathers, Morgan Hill, Cal.

LAND FOR SALE

STATE LANDS.

JUST NOW—Lists of STATE Land in any 3 counties and valuable lists of Indian land in different counties $5. County Sectional maps showing vacant GOVERNMENT land, plainly marked, helpful in finding State and indian land from lists, $2.50 any county; also, State map showing townships, counties, roads, towns and school land plainly marked, $2.50. Order today. CALIFORNIA STATE LAND INFORMATION BUREAU, Joseph Clark, Manager, 1511 K Street, Sacramento.

40 ACRES NEW STAND ALFALFA. Virgin soil with Riverside irrigating water perpetual right. Alfalfa stand is cutting 350 tons annually and good for five years. Ranch is surrounded by 4-year-old walnut trees with 1500 feet of underground vitrified irrigating pipe. Five-room house, barn, outbuildings and fruit trees. Also 25 Jersey milk cows. Milk contract with Los Angeles Creamery average 50c lb. butter fat. $5000 for cows and equity. Balance ($14,000) on the best of terms. Box 44, R. D. 4. Arlington, Riverside, Cal.

FOR SALE—Beautiful mountain ranch one mile from Nevada City. Nine-roomed house and outbuildings. Land highly cultivated. Trees, vines, shrubs, poultry, cows, horse and buggy. Abundance water. Address Owner, Ren Tonelia, Nevada City, Cal.

CALIFORNIA LAND — Money-making little farms. High-class, low-priced in all counties. First mortgage loan on farms bearing 7 to 9 per cent. Call or write the oldest land office in California. C. M. Wooster Co., 303 Phelan Bldg., S. F. Catalog free.

CITRUS LANDS FOR SALE at one-half its value, near Lemon Cove and the famous Merryman ranch, on electric line. For description and price, write or call on A. G. Griswold, Exeter, Cal.

FOR SALE in beautiful Santa Cruz mountains, 180-acre home in fruit and vegetables. Price $1400. Also 8½ acre home. All fruit. Price $2700. Address Box 62, Pacific Rural Press.

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FOR SALE—Quarter section stock or fruit ranch, five miles from county seat. Plenty water. For particulars call or write owner. O. Switzer, Merced, Cal.

WANTED—To hear from owner of good farm or unimproved land for sale. H. L. Downing, 93 Palaca Bldg., Minneapolis, Minn.

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Poultry Breeder's Directory

I HAVE ENLARGED my capacity to 65,000 eggs room and can accommodate my customers better than ever with white and brown Leghorn chicks; also Barred Rocks and Rhode Island Reds. Indian Runner Ducks. Santa Clara Valley Hatchery, San Jose, Cal., R. R. 6. Box 336C. Phone S. J. 1889.

BABY CHICKS!! Barred Rocks, Rhode Island Reds, Black Minorcas 11 cents; White and Brown Leghorns, 8 and 9 cents. First class stock. Prompt delivery. Roofden Poultry Ranch, Campbell, Cal.

WHITE PLUMAGE Poultry Farm and Hatchery. Sells White Leghorns, Barred Rocks, Rhode Island Reds, Baby Chicks. Circular free. H. A. Schlotthauer, Exeter, Cal.

BARRED PLYMOUTH ROCKS—"The kind that Win and Lay." Choice stock for sale. Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

CROLEY'S EVERLAY EGG MASH and **CROLEY'S SCRATCH FEED** form a perfect balanced ration. Ask your dealer for them.

TRAPNESTED LEGHORNS—White and Buff Stock. Eggs, chickens. Arthur R. Schroeder, Box 179E, Mountain View, Cal.

ORPINGTONS, BUFF AND WHITE, Black Minorcas and Carneux pigeons. Mrs. Susan Swaysgood, Pomona, Cal.

TURKEYS, DUCKS AND GEESE.

HART'S STRAIN OF BRONZE TURKEYS—Young stock of both sexes for sale. Eggs by the setting or hundred. Also eggs from special matings. Albert M. Hart, Clements, Cal. (Successor to Ed. Hart.)

CHICKENS, DUCKS, GEESE, GUINEAS, PEA FOWL. Address Wm. A. French, 545 W. Park St., Stockton, Cal.

BELGIAN HARES.

BOSWORTH'S Imperial Red New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville, Cal.

BELGIAN HARES—Young stock for sale. Hurd Bros., St. Helena, Cal.

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For bored or drilled wells from 10 inch inside diameter up; and for capacities of 250 3000 gallons per minute. Built for pumping from any depth to and including 250 feet. They are absolutely water balanced and are self-aligning. More water can be obtained from such wells than with any other type. Built in belted or direct motor driven types. If interested, write for Bulletin.

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The Home Circle.

TAKE HEART.

Take heart! nor let th' alarmist's cry
Uproot your faith in self and kind,
Men have been weak since Adam fell,
Mistaken since the earliest mind.
And yet, the measure of results
The judgments of the race defend,
The level of the world's desire
Shows steadily an upward trend.

Take heart! What though misfortunes past,
Have dimmed the hope which once was yours?
Look up! Press on! Success is reached
By him who through defeat endures.
Though weary, work! and falter not;
Though out of heart, fight on, amain!
Was never one who kept his faith
But to his purpose did attain.

Take heart! Your altar candle's gleam
May light some wand'rer on his way,
May help revive abandoned dreams
And bring new courage for the day.
Remember, when you fain would rest,
Abandoning the half-made trail,
Another charts his course by yours
Because of him you dare not fail!

—Grace Marian Smith.

THE JOURNEYINGS OF THE LIBERTY BELL.

By Jane A. Stewart.

Our Liberty Bell is a great traveler. For an aged and supposedly decrepit body it has a good deal of traveling to do. In fact, no other revered and valued relic in all the world has ever had such peregrinations.

No one in England would seriously think of taking the throne of Scone (or the Coronation Chair), the emblem of British unity and sovereignty, out of Westminster Abbey, and giving it a trip around Great Britain for public inspection. The British idea is that the people should go to the relic rather than that the relic should journey to the people.

Here it is different, and every now and then the good Liberty Bell leaves its safe and secure haven in Philadelphia to go upon risky expeditions hither and yon, because the people clamor for it, send it such irresistible invitations, and bring such powerful and persuasive pressure to bear upon its conscientious custodian, the City of Philadelphia, that there can be no refusal.

Hazardous and full of excitement as some of the Liberty Bell's journeys have been, none on the list has exceeded in peril the very first journey which it ever took as our Liberty Bell.

It was in 1777, it will be remembered, that the British under General Howe were coming to occupy Philadelphia, and the American Army was forced to evacuate. Knowing that the British would like nothing better than to get hold of this and other rebellious bells, a party of American soldiers took it down from its place in Independence Hall (the State House) tower and placed it upon a cart with the seven chimes of Christ Church and the two bells of St. Peter's. The Liberty Bell had a rough ride to Allentown, guarded day and night by its faithful escort of two hundred North Carolina and Virginia soldiers. The cart broke down on the way under the Liberty Bell's weight of two thousand pounds, and the precious bell had a narrow escape from accident. Another stronger cart was procured, however, and it was safely deposited in Zion Church, Allentown, where it rested, safe from capture and possible conversion into British bullets, from September, 1777, until June 1778, when it was joyously returned to Independence Hall in time to ring for victory at the surrender of Cornwallis.

The second journey of the Liberty Bell appears to have been not a perilous one. It was a very different trip from that of the first days of the young Republic, when the people were striving for freedom as a nation. Over a century had passed, and now the bitterness not only of Revolutionary days but also of civil warfare had died away. Then the nation realized as never before the sacredness and usefulness of the Liberty Bell. The pressing invitation of the Cotton States Exposition managers at New Orleans was accepted, and the Liberty Bell made a memorable and significant trip.

As it traveled toward New Orleans in January, 1885, Jefferson Davis, the leader of the Southern Confederacy, came from a sick-bed to look upon it. He boarded the train at a point west of Mobile, Ala., with his little granddaughter, whom he lifted up in his arms that she might kiss the Bell. Bending his uncovered head and bowing over it, he said:

"I believe the time has come when reason should be substituted for passion, and when we should be able to do justice to each other. Glorious old Bell, the son of a Revolutionary soldier bows in reverence before you."

Such were the precautions taken for the care of the Liberty Bell at that Exposition that it was never removed from the handsome flat car on which it made the trip to and from New Orleans on its errand of inspiration.

All the great Expositions have rejoiced in the wonderful presence of the Liberty Bell. To Chicago in 1893, and later to Atlanta, Charleston, and St. Louis the old Bell has cheerfully and triumphantly journeyed, greeted everywhere in a manner befitting a historic and significant relic by the patriotic and appreciative people.

"At Charleston," wrote an eyewitness, "I saw some of the people bend over its edges in their eagerness to kiss it, and many seemed to feel as if its presence was sacred, as votaries do at the altar of their church. . . . There could be no possible mistake that the Bell symbolized a feeling that was in the very fibre of their being."

Everywhere it was acclaimed by multitudes with patriotic ceremonies, greetings, holidays, flower wreaths, and choruses of young and old.

In 1908 the Liberty Bell re-enacted its own first journey, being swung on a rude cart to travel in imagination again to its haven in Allentown, as part of the great Philadelphia Historical Pageant, a patriotic object lesson for the thousands who saw it.

The longest journey which it has been called upon to take is that of 1915. In response to the insistent petition of the people of the Pacific Coast, the Liberty Bell travels six thousand miles to and from Phila-

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$25 for the Best Photograph
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Amiwud is tough and durable. Is cheaper than wood. Takes the place of lath and plaster.
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Why Suffer Longer From Ants?

When Their Extermination Is A Comparatively Simple Matter?

If you should ask the average housekeeper to name the principal annoyance with which she has to contend, ants would invariably be given a prominent place in the list.

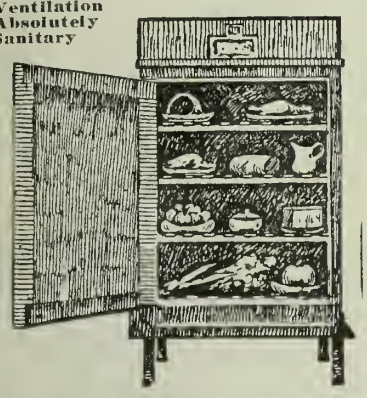
This will not hold true for any great length of time, however, for women everywhere are rapidly learning of the great discovery made by a baker and candy-maker in Los Angeles, whose place was over-run with ants, but who originated a paste which rid his shop entirely of them in one day. So rapidly did the news of the discovery spread that it was necessary to build a large factory to supply the demand.

This remedy is put up for general use under the name of Kellogg's Ant Paste and can be obtained at all good druggists. Women everywhere are using it with surprising results. Try a package today.

The STEPHENSON PATENT COOLER

No Ice Required

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Award first prize wherever exhibited. If not for sale at your dealer's, write for particulars and prices.

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"The Farmers Friend"



In Handy Buckets Also Small Cans

Ask your Dealer

DIVIDEND NOTICE.

THE GERMAN SAVINGS AND LOAN SOCIETY.

(The German Bank)

526 California St., San Francisco.

For the half-year ending June 30, 1915, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, payable on and after Thursday, July 1, 1915. Dividends not called for are added to the deposit account and earn dividends from July 1, 1915.

BEE-KEEPERS' SUPPLIES

We keep a full line of supplies and are prepared to serve bee-keepers promptly.

Write for Catalogue A.

A. I. ROOT CO.,

58 Sutter St., San Francisco.

delphia to become the most notable historic feature of the great Panama-Pacific Exposition. The petition was two miles long and contained 500,000 names. It is likely that on this journey more people will have an opportunity to look upon it than on any other of its notable pilgrimages.

FARM SEWAGE.

The farmer who is making his business pay, ought to enjoy the conveniences and modern improvements in living which he would expect and accept as a matter of course in a city. When he buys city property, he pays for every improvement that goes with it and a good round tax annually for upkeep.

When the farmer's boy goes to town on a visit, the comparison is apt to be in favor of the ranch, if the home is comfortable and sanitary, so that his friends have "nothing on him."

The modern substitute for the outhouse and the sour smelling sink furrow across the backyard is a septic tank. This is a permanent improvement, into which the house wastes may be flushed, year after year, with little or no attention.

The process taking place in the septic tank is as follows: The sewage is purified by a chemical change resulting from the attack of two different kinds of bacteria.

First come the anaerobic bacteria; they are found living in all mixed sewage. These thrive best where it is dark, air is excluded and material kept quiet. They set upon the solid materials, attacking and digesting them and turning them into a thin liquid.

Second come the aerobic bacteria which are found in the surface soil. They thrive in sunlight and air. They complete the purification of the liquid after it leaves the tank so quickly that it becomes fit to drink after going a little distance.

The tank is completely inclosed and divided into two tanks or compartments by a partition wall crosswise. The sides, floor and roof may be of 1:2:3 cement mixture, except the roof or cover of the second compartment, which can be of boards, hinged or free.

The cement is 4 inches thick throughout. A square man-hole is left in the roof of the first compartment with beveled out edges, so the lid will fit in closely to exclude air.

The tank may be placed close to the house if desired. Glazed 4-inch sewer pipe enters the first division close to the top with an elbow through the wall and extension down to 18 inches from the floor, which reduces the disturbance from incoming matter. It is well to keep this quiet. Sludge or thick foam forms on top, tending to seal over the surface and promote bacterial breeding.

As sewage enters the first tank, an equal amount of liquid is displaced and flows over into the second tank. To prevent any sludge or solid matter floating over, a gap or wier is left in the top of the partition wall, about 1 foot wide and 1 foot deep, guarded by a redwood baffle board across the tank, 4 inches in front of the gap and 6 inches below and 6 inches above the gap sill (i. e., a 12-inch board). The baffle board slips into grooves left in the side walls. Don't forget to make these grooves.

The method of discharging the liquid collected in the second tank depends upon the slope of the land. It may be allowed to dribble out, or the tank full discharged at one time through an automatic air releasing siphon.

In absolutely flat country, it is a problem where to put the discharge. Have a well driller bore and case a 4- to 6-inch hole in the floor of the second tank, tapping a wet sand stratum that does not affect the water supply. Let the casing stick up in the floor of the tank 2 feet, and hang a collar of larger casing around it, which will form a trap to exclude any possible floating matter from the drainage well.

From experience, I would say, the smallest sized practical septic tank is 4 feet wide, 8 feet long, and 6 feet deep, with partition wall in the middle. This will provide for thirteen people.

In building larger tanks the second compartment may remain of the same size, but the first should be increased 6 cubic feet for each additional person. This allows 50 gallons apiece, or 25 gallons daily resting for 48 hours digestion.

Oakland. Wm. Curtis Clark.

"Birds are often brighter than human beings, Mrs. O'Flaherty." "Right yez is, Misther Parkins. We have a bur-red in this place what knows more than Pat Gallagher. He can tell the toime of day better than Pat. They have a clock in the next room; an', phin it's toime to tell th' toime, that bur-red comes out an' says 'cookoo' as many toimes as th' toime is." "That is wonderful," I said. "It is indade," said Mrs. OFlaherty; "an' th' wonderful pa-rt ov it all is it's only a wooden bur-red at that!"—Eli Perkins.

A Hoosier lad of twelve years was industriously at work upon a pile of wood in his mother's back yard, when he was approached by a playmate. "Hello, Ben!" said the youngster, "do you get anything fer cuttin' the wood?" "Well, I reckon I do," replied Ben. "Ma gives me a cent a day fer doin' it." "What you goin' to do with yer money?" "Oh, she's savin' it fer me; and when I get enough, she's goin' to get me a new axe."

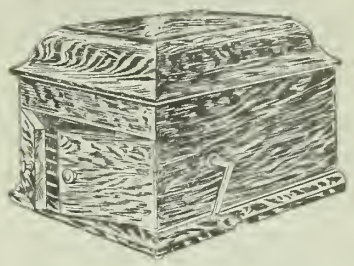
Little boy caught a very severe cold while his mamma was out of the city, and on her return rushed up to her, and, throwing his arms around her, cried, "O mamma! both of my eyes is raining, and one of my noses won't go."

Mrs. Newrich, with a slight knowledge of flowers, said to her new gardener: "James, I desire to have this bed planted with Saliva. What do you suggest for an appropriate border?' James, with greatly suppressed emotion: "I would recommend Spitoonias, ma'am."—Selected.

DOUBTFUL.

"Arthur seems a bright, capable fellow. I think he'll get on."

"Well, he's certainly a worthy young man, but I doubt whether he has head enough to fill his father's shoes."—Boston Transcript.



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The Markets.

San Francisco, June 30, 1915.

WHEAT.

Prices are rather uncertain at present, having undergone some fluctuation. The present level is considerably lower than last week, but better prospects for export trade have brought a steadier feeling within the last day or two.

Cal. Club, ctl.	$1.70	@1.72½
Forty-fold	1.75	@1.80
Northern Bluestem.	1.80	@1.85
Northern Club	1.70	@1.72½
Northern Red	1.70	@1.80

BARLEY.

Values are little more than nominal, as buyers are slow to take hold and trading of late has been closely limited. New barley is offered in considerable quantity, and seems to contain an unusually large amount of poor stock.

Choice Feed, ctl. ...$1.02½@1.05

OATS.

Both red and white are quoted a little lower, though first-class offerings are pretty steadily held, with moderate supplies on this market.

Red Feed	$1.35@1.45
White	1.45@1.50

CORN.

Values are unchanged, local offerings of most grades being rather light, while there is a steady demand for feeding. There is hardly enough white Egyptian here to quote.

California Yellow	$1.75@1.80
Eastern Yellow	1.80@1.85
Milo Maize	1.75@1.80
Manchurian	1.40@1.60

BEANS.

Prices show no change whatever since last week. The market is somewhat steadier than it was, but local dealers say there is very little movement, and the outlook is uncertain. Supplies are not believed to be excessive, and should be fairly well out of the way when new stock comes in, though they have not been moving very much for some time.

(On Wharf.)

Bayos, Cal., per ctl.	3.75@4.00
Blackeyes	5.50@5.65
Cranberry Beans	4.00@4.25
Horse Beans	3.50@4.00
Small Whites	4.00@4.15
Large Whites	3.90@4.10
Pink	3.40@3.50
Limas	4.00@4.15
Red Kidney	4.90@5.00
Mexican Reds	4.90@5.00

SEEDS.

Business in all descriptions is very quiet, with no new stock coming in yet, and practically no demand in any line.

(Wholesale prices, San Francisco.)

Alfalfa	17½@18½c
Brown Mustard, per lb	Nominal
Canary	10@12½c
Hemp	3@3½
Millet	2½@3 c
Timothy	7½@8 c

HAY.

Shipments to this market continue heavy as before, consisting mostly of old crop hay, though a little new hay has appeared. A large part of the hay arriving is going out to other markets, the local demand showing only slight activity. There is said to have been quite a lot of buying of new hay in the country iately, almost entirely limited to the most desirable grades of hay, ordinary stock finding little demand. Prices for the most part have been about in line with old-crop values. New second cutting alfalfa shows very good quality, and is readily disposed of, though some old alfalfa is still coming in.

(Prices per ton, carload lots, on track, San Francisco.)

No. 1 Wheat, per ton.	$11.00@11.50
do. No. 2	8.00@9.00
Barley	5.00@8.00
Tame Oats	7.50@12.50
Wild Oats	6.00@8.00
Alfalfa	6.00@9.00
Stock Hay	4.50@5.00
Straw, per bale	.40@.45

FEEDSTUFFS.

Rolled barley is very weak, but not quotably lower. Most feeds are rather easy, owing to abundant crops, though there is a fair demand for this time of year.

(Wholesale prices per ton, carload lots, San Francisco.)

Alfalfa Meal, ton	$14.00@15.00
Alfalfa Molasses Meal per ton	18.00@19.00
Bran, per ton	29.00@30.00
Oilcake Meal	None here
Cocoanut Cake or Meal	25.00@26.00
Cracked Corn	40.00@41.00
Middlings	34.00@36.00
Rolled Barley	23.00@24.00
Rolled Oats	33.00@34.00

VEGETABLES.

Supplies in a good many lines continue to increase, and while the market is active values are on the down-grade in most varieties. Beans and peas are offered quite freely, both showing a decline, and lima beans are offered in considerable quantities. Asparagus and rhubarb are still in ample supply at the old figures, and celery and lettuce are steadily held. Bell peppers are lower, and larger offerings of Merced tomatoes are bringing lower prices in this line. Eggplant and summer squash also are lower. Green corn is in good demand, and choice offerings still bring high prices.

(Wholesale prices, San Francisco.)

String Beans, lb	2@3½c
Lima Beans	5@8 c
Celery, crate	50@1.25
Lettuce, crate	.75@1.00
Asparagus, box	$1.00@1.50
Peas, sack	.75@2.00
Peppers, bell, lb	10@12½c
Tomatoes, crate, Merced	.35@50c
Rhubarb, box	40@65c
Cucumbers, So'th'n, lug	50@60c
Eggplant, lb	4@7 c
Summer Squash, lug	40@50 c
Green Corn, sack	1.00@2.75
Okra, crate	.75@1.25

POTATOES AND ONIONS.

Oregon potatoes in this market are about cleaned up, and find little demand with increasing offerings from the Delta. New river stock is easy at a rather sharp decline. Yellow and red onions are bringing about the same figures, the latter being a little firmer. Australian are being cleaned up at irregular prices, while Bermudas are firm. Garlic shows a further decline.

New River Potatoes, ctl.	.75@1.00
Onions, yellow, sk	60@65c
Red, sk	60@65c
Bermudas, crate	.90@1.00
Garlic, per lb, new	5@7 c

POULTRY.

The drop of last week has caused some curtailment of shipments from the east, and current offerings are cleaned up more readily, though quoted values show no improvement.

(Wholesale prices, San Francisco.)

Live Turkeys, lb	15@17 c
Broilers	19@21 c
Fryers	22@23 c
Hens, extra, per lb	16@17 c
Small Hens, per lb.	13@14 c
Smooth Young Roosters, per lb	24@27 c
Squabs, per doz	$2.00@3.50
Geese, per pair	2.00@2.50
Ducks, young, lb	14@15 c
Old	13@14 c
Belgian Hares	6@7 c

BUTTER.

Arrivals from the north continue quite heavy, but there has been a continuance of the large shipments to Australia, fully taking up the surplus over local requirements, and prices on both grades are higher.

Extras	26	26	26	26	26	26
Prime Firsts	24½	25	25½	25½	25½	25½

EGGS.

The local demand is quite active, but supplies are coming in freely, and the upward movement has stopped for the present. Pullets are a little lower, extras and firsts being ½c higher than last week.

Extras	24	24	24	24	24	24
Firsts	21	21	21	21	21	21
Sel. Pul.	20½	20½	20½	20	20	20

CHEESE.

Local values are pretty steadily maintained, liberal arrivals from the north being readily absorbed.

S. F. Dairy Exchange prices on flats and Y. A.'s.)

Y. A.'s fancy	12½c
Fancy Calif. flats, per lb	11 c
Monterey Cheese	10@12 c

LOS ANGELES DAIRY PRICES.

Butter	26	26	26	27	27	26
Eggs	25	25	25½	25	24½	23
Cal. Cheese	12	12	12	12	12	12

DECIDUOUS FRUITS.

Pears are the only new variety added to the list, while gooseberries are no longer quotable. Offerings of cherries are diminishing, though a good many are still coming from California points, and northern stock may be offered for some time. In the berry market, black loganberries and raspberries are the only varieties to hold their own, everything else being much lower; and declines are the general rule in the fruit market, except on cherries. Plums, figs, and apricots and peaches in small boxes are all lower. Watermelons still hold about the same, but a drop is expected soon; and cantaloupes are easier, with quite large supplies. Apples are steady, with limited offerings so far.

Loganberries, blk, chest.	$2.00@2.50
Loganberries, red	2.50@3.00
Strawberries, chest	3.00@5.00
Raspberries, chest	4.00@7.00
Blackberries, chest	3.00@4.00
Currants, chest	2.50@5.00
Plums, crate	50 75 c
Figs, box, single layer	40@50 c
Cherries, lb	8@10 c
Apricots, crate	50@60 c
Lug	75@90 c
Pears, Bartlett, bx	.90@1.00
Other varieties	.75@1.00
Peaches, crate	50@75 c
Small box	40@55 c
Apples, new Red Astrachan, box	$1.00@1.25
Apples, Newtown, fancy	1.50@1.75
Cantaloupes, pony crate.	.75@1.00
Standard crate	1.25@1.50
Watermelons, lb	½@1½c

DRIED FRUITS.

In the fruit line, spot prunes are the only article to show much firmness, as there is quite a lively demand in consuming markets and supplies here are closely cleaned up. New crops show no change, and are gradually being contracted at the prices quoted. A few small lots of old apricots are appearing, but there is little left, and there is a fair demand for spot stock. Such new goods as have appeared, however, have brought no advance over the recent quotations. Figs, especially Calimyrnas, are quite firm, as difficulty is expected in getting supplies from Turkey. Peaches are neglected, and the present attitude of canners is not at all favorable for the dried peach situation. Seedless raisins are decidedly stronger and higher, as it is anticipated that England as well as the eastern states will depend largely on supplies from California. The New York Journal of Commerce says:

"A sharp advance has been made in spot California prunes, sizes 40s to 50s, 50s to 60s and 60s to 70s. The principal holder of California prunes demands 11c for 30s to 40s in 25-pound boxes for delivery from July 1 to 10. The same factor quotes spot New York for 40s to 50s 10c for prunes in 25-pound boxes and 9½c for lots in 50-pound boxes. The Coast market for old crop is about ½c higher, with a 6½c basis quoted on 40s and a 6c basis quoted on 50s to 90s, inclusive. The market will have to depend upon the very light available supplies until the first shipments of 1915 crop are made about the first of October. It is said that a further rise in the prices of spot prunes here may be made within a week or so.

"The export business with Europe is apparently falling off, for fewer inquiries are said to be coming in and the sales which are being made are correspondingly limited.

"Rumors are still prevalent in the trade that concessions of from 2½ to 3 per cent are being made on raisins off the price quoted by the Associated Company for August-September shipments. Several factors claim that they have been offered this discount and say that it is being offered to other buyers. Spot seeded raisins are being held steady, but the market is no higher in price. Some business is being done on future seeded raisins in cartons for September and October shipments from the Coast at 6½c on fancy and 6¼c on choice.

"Apricots are said to be greatly reduced in stock and market remains firm. Prices are lower on the Coast for future delivery, ranging about 6½c for extra choice and 6c for choice."

(Prices to Growers.)

1915 crop.

Apricots, per lb	5½@7 c
Figs, white	3¾ lb 4¼c
Black	2¼@3 c
Calimyrna	4½@5 c
Prunes	2¾@3¼c
Peaches	3@3½c
Pears	5@8 c
Raisins (in sweatbox):	
Loose Muscatels	4@4½c
Seedless Sultanas	5 c

CITRUS FRUITS.

The Valencia orange demand is still keen in the east and prices very satisfactory, while lemons continue to drag.

At New York on Monday, June 28, the auctions averaged from $4.55 down to $2.55 for valencias. St. Michaels brought from $3.25 to $3.55 per box. Lemons $1.10 up to $2 per box. The same day at Boston paid as high as $2.70 for lemons. It is estimated that there are about 5,000 cars of valencias in southern California yet to be marketed. Shipments are going forward at the rate of more than 100 cars daily.

While the San Francisco demand is somewhat curtailed by the liberal offering of deciduous goods, values in general are pretty well maintained. Second-crop navel oranges move slowly, and are somewhat lower in price; but valencias are held at an advance. Grapefruit and lemons are unchanged.

(Wholesale prices, San Francisco.)

Oranges, navel, box	$1.00@2.50
Valencia, box	2.25@3.25
Grapefruit, seedless, box	1.75@2.25
Fancy	2.25@2.75
Lemons, box	1.50@3.50

NUTS.

Walnuts are scarce and firm, values being entirely nominal. New almond prices will be named by the Exchange early in August. Meanwhile some of the packers are making strenuous efforts to get prices down, some having offered to cut under the lowest price named by the Exchange; and some have named prices to the trade as follows: Nonpareils, 16½c; IXL's, 14c; Ne Plus Ultra, 13c; Drakes, 11¾c; Languedocs, 11¼c.

(Prices f. o. b. San Francisco.)

Almonds, 1915 crop:	
Nonpareil	17 c
IXL	14½c
Ne Plus Uutra	14 c
Drakes	12½@13 c
Languedocs	11@11½c
Walnuts:	
Jumbo, lb	19 c
No. 1 Softshell	16½c
Budded	18 c
Ungraded	8@10 c
Manchurian	6@11 c

HONEY.

The honey market is practically featureless, as no new stock has arrived except a little comb, and old honey is about cleaned up. Some small lots have appeared from the Hawaiian Islands lately.

Water White, comb	10@18 c
Light Amber	8@10 c
Water White, extracted	5@6 c
Light Amber	3½@4 c
Dark	2@3 c

LIVE STOCK.

The continued easiness of beef cattle has resulted in a slight drop in cows and heifers. Hogs also are lower, as offerings of late have been rather heavy.

(Prices at San Francisco.)

Steers, No. 1	6¼@6½c
No. 2	6@6¼c
Cows and Heifers, No. 1	5½@5¾c
No. 2	5¼@5½c
Bulls and stags	4@5 c
Calves: Light	9 c
Medium	8@8½c
Heavy	6@7 c
Hogs: Grain-fed:	
200 to 300 lbs.	7¼c
100 to 200 lbs.	7¾c
Prime Wethers	6½@7 c
Ewes	6@6½c
Suckling lambs	8@8½c

DRESSED MEATS.

Steers	10½@11 c
Veals, large	12½@13 c
Small	14 @15 c
Prime Wethers	12½@13 c
Ewes	11½@12 c
Suckling lambs	14½@15 c
Hogs	12 @12½c

WOOL.

There is quite an active movement of wool, though a good deal of the California clip is still left, having been held at higher prices than the trade would pay. Dealers note some strength in the market, owing to possibility of export trade, though southern wool is lower than last quoted.

Wool, Sacramento Valley, lb	18@22c
Southern, year's staple	15@18c
Six months	14@16c

HORSES.

A good sized shipment of light to medium stock came in from northern California this week. In the local market, heavy stock of desirable types is rather scarce, and while there is no very urgent demand such horses command good prices. Buyers show little interest in ordinary offerings, though there seems to be a fair demand around the country, and some large lots of horses and mules for shipment to other quarters have been bought up through the valley district.

(Approximate values at San Francisco, based on auction sales.)

Heavy drafters, 1700 lbs. and up	$275@300
Light drafters, 1550 to 1650 lbs.	175@200
Chunks 1350 to 1500 lbs	150@175
Wagon horses, 1050 to 1350 lbs.	100@140
Green Mountain range horses, 950 to 1200 lbs	50@ 90
Farm workers	60@ 75

MULES.

1200 lbs. and up	$225@250
1100 lbs.	200@225
1000 lbs.	150@175
900 lbs.	125@150

HIDES.

The hide market is decidedly strong, and the anticipated advance has been made this week.

Heavy Steers, over 56 lbs.	16 @16½c
Medium	16 @16½c
Light Steers, under 48 lbs	16 c
H'vy Cows, over 50 lbs.	15½@16½c
Light Cows, 30 to 50 lbs.	16 c
Kip	16 @17 c
Veal	17 c
Calf	17 c
Dry Hides	27 @28 c
Dry Kip, 10 to 15	26 @27 c
Dry Veal, 5 to 10	31 c
Dry Calf, 7 down	31 c
Horse Hides—	
Salt: Large	$3.00
Medium	2.50
Small	1.00

HOPS.

The outlook for foreign shipment is improving, and with a strong demand from England the market is much stronger. Prices show considerable advance, and some large contracts have been closed in the last week.

1915 crop, lb	8½@11 c

SPECIAL DECIDUOUS MARKET REPORT.

By J. L. Nagle.

Sacramento, June 28, 1915.

All markets during the present week showed considerable decline under the previous week's ruling prices, due to increased receipts not only from California but from Oklaboma, Louisiana, Texas and Georgia.

Shipments of cantaloupes have also increased to approximately 180 cars a day from the Imperial Valley, and as the Northwest is now moving apricots and cherries and as the Middle West, Southern and Eastern states are shipping berries in large quantities, this entire movement is responsible for the present unsettled condition of the markets and we fear that there will be no change for the better, except spasmodically, for some time.

The following prices have ruled for the week:

New York—Climax Plums averaged $1.00; Formosa Plums, $1.15; Clyman Plums, 79c; Red June Plums, 89c; Burbank Plums, 80c; Tragedy Plums, $2.10; Royal Cots, 92c; Moorpark Cots, $1.05; Early Rose Cots, 70c; Newcastle Cots, 60c; Alexander Peaches, 76c; Triumph Peaches, 74c; Eulatis Peaches, 85c; Royal Anne Cherries, 71c; Republican Cherries, 83c; Tartarian Cherries, 80c; Oregon Cherries, 81c; Bing Cherries, $1.23; Lambert, $1.16; Nonpareil Cherries $1.05.

Chicago — Royal Cots averaged $1.02; Alexander Peaches, 73c; Triumph Peaches, 98c; Clyman Plums 87c; Climax Plums, 89c; Abundance Plums, 90c; Tragedy Plums, $1.71; Burbank Plums, 88c; Red June Plums, 91c; Formosa Plums, $1.00; Maynard Plums, $1.83; Santa Rosa Plums, $1.26; Beauty Plums, $1.15; Oregon Cherries, 85c; Royal Anne Cherries, 80c; Republican Cherries, 83c; Bings, $1.03; Tartarian, 79c.

Philadelphia — Royal Cots averaged $1.00; Clyman Plums, 80c; Red June Plums, 68c; Burbank Plums, $1.07; Formosa Plums, $1.00; Climax Plums, 95c; Beauty Plums, $1.02; Alexander Peaches, 98c; Bing Cherries, $1.57; Republican Cherries, $1.27; Lambert Cherries, $2.75; Tartarian Cherries, 82c; Bigarreau Cherries, 92c; Royal Anne Cherries 77c.

Total shipments to date 1190¾ cars as against 1735¼ cars to same date last year.

Publisher's Dept.

Our readers will recollect the announcement a few weeks ago in these columns of the "California Annual" then being printed. The completed book reached our desk this week and is in every way the most ambitious effort ever made in publishing lines on the coast. Mr. R. L. Bernier is the man who visualized the idea and for a year has worked steadily in the effort to make it a reality. Many leaders in all lines of productive endeavor in California have written special articles and they have all been passed upon and put into book form by Prof. Wickson. The book contains nearly 700 pages of text, half-tones and four-color plates, and is the finest job of printing we have seen in the west. Since making the first announcement, Mr. Bernier changed the name from "California Annual" to "California's Magazine" and the price is fixed at $1.50 per copy. Address "California's Magazine, New Call Bldg., San Francisco.

Since last week we have added 182 paid subscribers to our list—not quite up to our usual quota, but nearly so.

The publisher of this journal is at present, with Geo. H. Croley, making personal investigations in the poultry industry, and the results we hope to have Mr. Croley furnish in a series of articles in the Rural Press shortly.

A new book, "How Farmers Cooperate and Double Profits," by Clarence Poe, is one of the latest to reach us. In this book is given the principles of co-operation along all production and marketing lines. It is a book of stories of actual experiences of co-operative societies in the west, south and east, also in Europe. The book contains 256 pages and sells for $1.50 net. Published by Orange Judd Co., 315 Fifth Ave., New York.

One of the latest Beet Tools on the market is the Four Row Beet Lifter, designed and built by the Killefer Manufacturing Company, of Los Angeles. The writer had the pleasure of witnessing a preliminary demonstration of this tool, held on the Bixby Ranch near Long Beach, a few days ago. Beet agriculturists from all the large ranches in the southern part of the State were in attendance and one and all pronounced the tool a success in every respect. The Lifter is self contained and by simply engaging a dog will lift or lower itself as the operator may desire. This device is very strong and simple, raising or lowering the tool in less than three feet of travel. This tool can also be used very effectively as a subsoiler, its weight, strength and ease of handling making it possible to break up practically any soil regardless of hardness or previous packed condition. In fact the lot where the demonstration was given was a dairy feed lot, that had not been touched for years with a tool of any description.

Almond Growers

Membership books will soon close. Those who desire to become members should make application at once.

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Sugar 2c Per Lb.

Call for COMBINATION ORDER NO. 1915.

SEND FOR THIS ORDER NOW.

20 lbs. Sugar (fine dry granulated)	40c
3 lbs. Beans or 5 lbs. Rolled Oats	25c
1 sack Rice or 3 cans Carnation Milk	25c
3 cans Tomato Puree, corn or 6 bars best Laundry Soap	30c
3 cans Minced Clams or 1 lb. new Citron or mixed peel	25c
2 lbs. Tea (any flavor) or 3 lbs. fancy Coffee	1.00
1 large bottle Flavoring Extract or 2 lbs. best Coffee	75c
2 cans Sliced Peaches or 1 bottle Tomato Catsup	25c
2 cans Sugar Peas or 2 cans of best String Beans	25c
3 lbs. Macaroni, Tapioca or Rice	25c
3 pkgs. Washing Powder or 3 cans Cleanser	15c
1 2-lb. square best Butter or 1 No. 5 pail pure Lard	65c
2 pkgs. Cornstarch or 2 pkgs. Table Salt	15c
2 bars Laundry Soap	10c
Total for all unchanged	$5.00

Money Savers

Fancy Table Peaches, large can, 10c.; dozen	$1.20
Cocoa—Baker's or Ghiradelli's, per can	.20
Pure Eastern Lard, per pound	.15
CARNATION MILK, 2 cans, 15c; dozen	.90
Picnic Hams, pound	.14
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LOCAL HORTICULTURAL QUARANTINES.

Rulings under the new Horticultural Commission Law, prohibit the transportation of all kinds of plants or parts of plants from one part of the State to another, except when accompanied by a certificate of inspection signed by State or County horticulture or quarantine officers, and each package must have the name of the shipper and of the locality where the goods were grown. Whenever such horticultural products are shipped, a detailed statement of the contents of each package must be sent to the county horticultural commissioner of the county into which the goods are shipped. No one may receive such shipments until they have been inspected by the proper officers.

The State Horticultural Commissioner is empowered to quarantine districts for any new or dangerous insects or animal pests, fungus, or other plant diseases for which there are no means of eradication, and where such menaces to horticulture are not already distributed to all parts of the State.

The horticultural force may require the treatment of all plants found infested at any place in the State. Plants or trees affected with crown gall, root knot, or other serious incurable disease, must be destroyed.

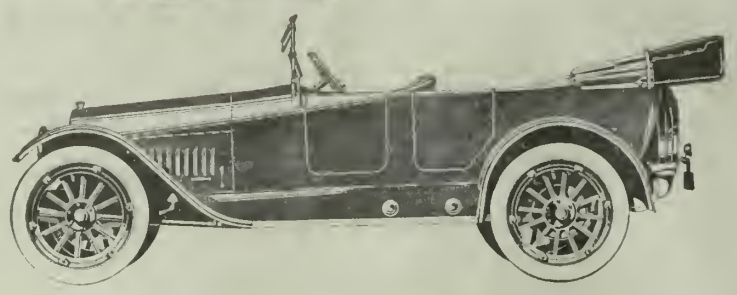
All nursery owners and dealers in nursery stock must register with the county horticultural commissioner data on the acreage, variety, number of trees, and their location whenever the county horticultural commissioner desires. Permits obtained from the county horticultural commissioner are required for all outfits doing public spraying or fumigation work. Such permits are to be issued only after examination of the apparatus and of the operators, in order to insure thorough work.

No potatoes may be planted in California if infested with eel worm, tuber moth, rhizoctonia, Fusarium wilt, scab, or other fungus diseases, except that potatoes infested with scab or other curable diseases may be planted if properly treated.

No horticultural products may be shipped out of the State without first being inspected by county horticultural commissioners or quarantine officers; and whenever certain classes of plants are shipped into the State by parcels post or otherwise, they must be inspected before being received by the consignees.

One thousand acres of the land in Sutter and Yuba counties purchased by the Scandinavian-American colony will be colonized during the coming year, 2500 the following year, and so on until the 10,000 acres are settled. A contract for the work of colonization has been made by the colony with the Natomas Consolidated Company.

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By Mrs. Susan Swaysgood.

PACIFIC RURAL PRESS, Publishers.

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THE PACIFIC RURAL PRESS

SAN FRANCISCO Saturday, July 10, 1915 LOS ANGELES

California State Library

State Commission Markets

[By Assemblyman H. E. McPherson, of Santa Cruz County.]

THE State Commission market, as provided for by the new law passed by the last Legislature, is to be presided over by a State Commission Market director to be appointed by the Governor to receive a salary of $5,000 a year. He is to appoint all of the commission market employees that are under him according to civil service regulations. He is to establish branch markets wherever conditions justify, wherever there is a demand, and the business is to grow only as there is a demand. There is a small appropriation of $25,000 provided for the installation of this proposition. It is meant that the State Commission Market be self-supporting; that in competing with private commission houses it will give them fair competition, without anything in its favor to make the competition other than fair. The idea is to regulate private commission houses in California, not by arbitrary fixed rules and regulations which work to a disadvantage very frequently, rather than to an advantage. but to regulate by competition with the State.

"The idea is to take up the proposition in a very modest manner, to take up, for instance, the simpler farm products, such as eggs and chickens and butter and garden truck, to start the proposition on a simple scale, to establish certain principles, to test the plan in certain ways, and then, as time passes, if there is a demand, it will grow; like the seed of the acorn, it will grow into the oak, provided the soil is fertile and there is a place for it.

"The State Accident Insurance Commission was established in California just a short time ago, and you all know of the general feeling at that time that private insurance companies would be ruined, and that here was the State doing that foolish thing of going into competition with private concerns that are backed by millions. What has been the result? The State insurance policies are but a small percentage of the insurance policies of California, a very small percentage, and yet the abuses of private insurance companies have to a large extent been cured, because of the fact that the private insurance company knew that if it did not come to time, if it did not meet the terms of the State insurance company, it would lose its business. The rates of compensation insurance have been reduced, and in many other ways has there been a general improvement.

"This is the idea back of this State Commission Market. There is nothing revolutionary about it, no desire to go into the field and entirely absorb it and drive out private concerns; in other words, it is to go in there to save private concerns unto themselves.

"From my investigations the commission men of this State are high grade of men. Of course, there are those among them who are a blot on the name of the business in general, just as there are in every business; and I want to say in fairness to them that I am sure that they rank as high as the producers who send them their products and the consumers who buy their products. One thing to start with in considering State marketing, is the statement from the Secretary of Agriculture in Washington that out of every dollar which consumers pay for farm products fifty-four per cent goes to the middleman. Think of that. Forty-six per cent out of every dollar goes to the producer.



Hon. H. E. McPherson, "Father of Law Establishing State Commission Markets."

"Next we want the natural scientific law of supply and demand to set the price in this State. We do not want a small ring of buyers to get off into a room by themselves and arbitrarily fix a price and have that the price of the State. With private commission men the idea is not to work for a philanthropic proposition, and think and plan for the interests of the producers, or for the interests of the consumer. They are working selfishly for their own interest, and the great people of this State are simply a secondary consideration. And if you had a State commission man, a director, who is serving under salary, who has no personal interest to serve by working to the disadvantage of the State in general, there would be a different aspect toward commission business.

"One problem that we have to solve—how to overcome the waste that is brought about by the present conditions, where the private commission man has no other motive than making his own profit. The waste is not of his affair. He does not lose by it. If you have a State Commission Market all good produce would be sold for some price, and the farmer get something for his money, certainly he is better off, and certainly the consumer is better off; and, as I understand it, eighty per cent of our population are in the consumer class.

"Take the city of San Francisco. To your great population of labor, toiling for a livelihood, the one primary thing of their life is food. Fifty-four per cent they have to pay to the middleman. If fruit, a perfect food, of which much is now allowed to rot under the trees because of the prohibitive cost of distribution, could have been brought to this market, and could have been sold for some price, surely the world would have been better off.

"I am speaking simply of the things in which I have personal knowledge, and which caused me to introduce this bill. Now consider fish. Monterey bay teems in fish of all kinds, and people of San Francisco pay many prices for it. The hardy fishermen in my town go out upon the high seas and risk their lives and bring in the treasures of the deep. They send them to San Francisco to your fish trust. They get for sole and other choice fish about two cents a pound, three cents or four cents, or when the fish is scarce and the storm is on, five and six cents—fish for which you pay up to twenty cents a pound. The cost and the waste is in distribution. Yes, you will admit that fish is thrown into San Francisco bay. Since I have been up in Sacramento I saw in your daily press of San Francisco, and it was not denied so far as I know, the statement that hundreds of boxes of fish were being dumped daily into San Francisco bay to keep up the price. Oh

(Continued on page 29.)

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California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at 5 p. m. July 6, 1915.

STATIONS	Rainfall Data: Week Past	To Date Seasonal	to Date Normal	Temperature Data: Max'm	Min'm
Eureka	.20	.20	.03	62	48
Red Bluff	.00	.00	.00	100	54
Sacramento	.00	.00	.00	92	50
San Francisco	.01	.01	.00	76	50
San Jose	.00	.00	.00	82	50
Fresno	.00	.00	.00	100	54
Independence	.00	.00	.00	94	
San Luis Obispo	.01	.01	.01	82	48
Los Angeles	.00	.00	.00	80	56
San Diego	.00	.00	.00	74	58

THE WEEK

California celebrated the great national holiday at her two great Expositions: at San Francisco and San Diego. It was very fitting because these two Expositions are exponents of California patriotism and national joy, and multitudes, of surprising numbers, signified their acceptance of this view by their participation. The celebrations also lifted the voice of California for the peace of the world, and this, too, is the ruling patriotic sentiment of the United States. Ex-Secretary of State William Jennings Bryan voiced it in a peace sermon of quiet force and dignity, and worked out his faith by refraining from participation in the military parade, preferring to serve his principles by feeding the doves in the "Court of the Universe"—for there are plenty of doves in the Exposition's Court of the Universe, though the mundane fraction of that territory is sadly shy of them. But the Exposition's doves were not frightened by the Exposition's military parade, and some people have wondered whether indeed it was necessary for Mr. Bryan to retire from what, from the present point of view, must be regarded as a joke on armament, in order to support his consistency in peace. Would it not rather have been more consistent for Mr. Bryan to have affiliated joyously with our current military outfit, for surely, if other nations had such an army as we have there would be no war in the world!

Live Stock a Factor in California's Future.

We hope readers generally noted the penetrating communication of Symmes and Means, agricultural experts of this city, on page 12 of our last issue. The Pacific Rural Press willingly accepts the suggestion that it assume leadership in a systematic effort to vastly extend the live stock industries of the state. We have already shot off a few million dynamite shells in that line of attack—most recently, as readers may remember, upon the millionaires who are lying listless in the trenches on their idle lands, waiting to be showered with sugar plums of increased land values created by the busy owners of adjacent lands. We have tried to scold them into doing something for their own progressive enrichment and for the good of the State. We have tried to show them that the way to make their land pay fair taxes and yield them a profit besides, is to stock it and operate it for animal products, and for its own soil-improvement. Idle land held for unearned increment in value is the curse of any commonwealth. It depresses the present and dims the future. We have scolded the millionaires first because they deserve it, because they have plenty of capital to make their lands active, and because scolding does not make them feel bad. We hate to scold people who take it too deeply to heart, for they are apt to get mad and that plays hob with our subscription list. Therefore, as we go forward with this effort to multiply California's live stock census, it will be largely by suggestion rather than by scolding; by exhortation rather than by arraignment.

What Nature Did for Fertility.

Our correspondents throw us violently against a most fundamental phase of the effort to build up California's live stock industries by their claim that the effort should be made for the sake of the land and for increasing its power to produce the other special products upon which the agricultural fame and wealth of the State now rest. That view is absolutely true, but not adequately understood and appreciated. The permanent fertility of the land is really the bed-rock upon which all our enduring agricultural and horticultural development must be firmly established. California lands were usually endowed with the elements of permanent fertility by nature, and there are still deep, open loams which, with good tillage and moisture, may be just as rich as ever and may still have plant food ample for a century of rational cropping by good tillage and rotation. But as a rule, the lands have been temporarily robbed of their capabilities by bad farming and by total disregard of the principles in accordance with which fertility can be made reasonably permanent.

Nature pursued soil-making in this State in the very highest style of her art. She pushed the mountains up with volcanoes and other central uplifts; she ground the exposed rocks with glaciers which carried their grists to the lake and sea bottoms in the valleys. As the climate changed, she employed torrential rains and streams to carry disintegrating rocks for valley-lifting with alluvial loams; other stuff she washed or blew around into colluvial loams; and other stuff still, which was too lazy to float or fly, she simply disintegrated by subtle processes where it lay. Various other materials she produced by various processes, until long before historic times California had soils which are the analogues of all the good soils which the world has or knows—predominantly deep, open and rich. Then, as with other great population-carrying soils of arid regions, nature measured the rainfall—so that minimum washing away of plant food was secured, and limited the temperature so that plants could lay hold at once upon the moisture as it fell and make monstrous growth during the half-year of moist soil and air. Such growth, falling as it matured, carpeted the land with a natural mulch of plant-wreckage, which subsequently decayed into vegetable mold and was worked into the soil by swarms of earth-burrowing animals, worms and insects, working up and down with the rise and fall of soil moisture, admitting air and micro-organisms to great depths and promoting fertility in various forms to several times the depth of its occurrence in the soils of humid regions. Upon such pastures came the antelope and other wild grazers of prehistoric times and continuing until joined by horses and horned stock, breeding wild from break-aways from Spanish pioneers—all adding to the soil richness which awaited the advent of the American argonauts, who took to plowing the plains after the gold discovery. It was this natural endowment of fertility which greeted the late Uncle John Wolfskill, when in the 40's he rode on horseback westward from Sutter's Fort, brushing the wild oats from his face, from time to time, that he might catch a sight of Putah gap in the Coast Range to steer his course, and during the trip, as he used to say, he saw seven grizzly bears standing erect and lifting their periscopes above the surface that they, too, could see the landscape and direct their submarine courses through the tall vegetation of the emerald sea.

What Man Did with Soil Fertility.

It is unnecessary to recount the methods of soil-skinning which the pioneers practiced, nor are they to be too hastily blamed for them. The soil, whenever moisture was adequate, turned their seed into colossal growths, which almost defied their harvesting methods and machinery. Labor, too, was scarce, ornery and expensive—inversely as costly and inefficient as the work to be done was great. What could they do but skim, to keep the growth within reach. How could they prepare for such growth and handle it, except by giving each laborer they could secure a great bunch of stock and a gang-plow which could turn a dozen shallow furrows at once? How could they harvest the crop except by giving each laborer a bunch of stock and a header to cut a swath of twenty to thirty feet at each crossing of the fenceless plain? How could they haul the crop, except by giving each teamster a bunch of stock and a whole train of wagons? The problem was to get less riotous growth from the land and to multiply the power of a man to handle it. And so there came into American agriculture the California style of farm implements: reapers with sickle-bars fit to cut shrubbery; headers of world-beating breadth, threshers of greater cylinder-length than ever built before; farm wagons of double tonnage—and all that. Therefore, do not blame the pioneers of sixty years ago over-much; they had their problems, which have largely passed with them, and they did what they could.

But though we are disposed to defend the first run of California soil-skinners, it is perfectly true that thirty or forty years ago the pioneer processes should have stopped and reasonable policy for soil conservation should have actively prevailed. But the foresight of the pioneers was not as good as the hind-sight of today, and really they did not know that they were killing the lands they had succeeded in subjugating. And they deceived themselves with fallacies arising from shallow thinking. They tried manuring by using manure in ways not suited to arid conditions, and concluded that manure killed crops. They plowed deep without proper after-working, and concluded that

deep plowing injured the land. They scouted rotations because they believed nothing would grow on the land but grain. They took to summer-fallowing and gained something by it, but summer-worked the land so ill that it became ruinously foul with weed-seed, though at first it was probably the cleanest land under the sun, except for its content of native annuals which were less noxious than the world's trampweeds which disastrously multiplied. And so land which nature made aboundingly rich came in half a century to be surface poor, hateful and foul and unprofitable for grain crops, except as other and more rational methods may make them once more large and remunerative.

Fertility Regained.

There is practically no worn-out land in California; some of it may be weary; some of it is probably mad and rebellious over the treatment it has received during the last half-century. It is all capable of restoration to fertility and condition by rational farming, which includes tillage, rotations, fertilization and in some cases irrigation. All of these factors of more profitable farming are continually discussed on the pages of this journal, and each is emphasized in its bearings and accomplishments. Fundamental in fertilization is the animal industry, and it is also the key to practicable and profitable rotations. No matter how great good may be attained by the use of commercial fertilizers and by the growth of cover crops, such result is capable of indefinite extension by the wider prevalence of animal husbandry. We are not at the moment interested in the increased wealth to be easily reached in California by multiplication of animal products. We have frequently urged that and shall have more to do with it, frequently, also. What we would emphasize now is the fertility by-products of the animal industry in all its branches. These things are not sufficiently recognized in this State. The prominent man still lives who said in his youth: "California soils are not advantaged by manure; the climate insures continuous fertility." This old fallacy is less insistent than formerly, but it still persists; it is a dangerous half-truth. And yet our market gardeners return from the towns with their huge wagons filled with the products of city stables, while, chiefly, at the south, whole trainloads thereof go out from the towns to the fruit districts. In all our more progressive fruit districts, the local by-products from dairy corrals have an established value per cubic yard, and they are often mistakenly sold for distant orchards when they could be more profitably used on local forage fields. Thus we are beginning to recognize in a small way the general fact that the production of animal manure is really the key to increased fertility of lands which we are using for all other crops, and that the restoration of loaminess, with all its attendant phases of soil capacity and aetivity, is to be attained by the use of as much as possible of the land, not otherwise permanently planted, for the growing of live stock and of pasturage or field crops of forage and grains for their maintenance. Thus we shall get plant food at minimum cost; tillage most easily and with highest efficiency; moisture conservation to the very highest duty of water; glorious plant growth in a field, like that in a garden; yields many times greater than those now usual, and farming enterprises responsive and profitable, because farm animals are multiplied and their fertilizing by-products used freely and wisely, according to the conditions in a dry country, which require somewhat different practices from those prevailing in humid countries, where the present knowledge of the subject has been chiefly developed.

How Animals Feed the Land.

Readers who have not given much attention to the subject may think we are exaggerating the value and importance of animal manures in rational and responsive farm practice, and therefore overestimating their importance in the future development of California agriculture. Even those who have learned the elementary facts by experience and are now buying such materials by carloads from city wastes may not appreciate how great a total value is now available in California if it were properly conserved and wisely used. They will be interested to know that if the plant food now available in animal by-products of fertilizing character were bought at the prices which prevail in the trade in commercial fertilizer substances of the same nature, the total is surprising. To show the facts the following statement is prepared. It is based upon animals of medium size and average feeding, for both size of animal and character of feed influence the value of the manure in terms of plant food, viz.:

	Manure Value	Numbers in California	Total Manure Value
Horses	$26.00	503,000	$13,078,000
Cattle	26.65	541,000	14,527,650
Pigs	4.50	877,000	3,946,500
Sheep	2.40	2,500,000	6,000,000
Hens	.08	6,087,267	486,989
Total annual value of excrements			$38,039,139

This shows that the animals now kept in California, according to the latest reports of the United States Department of Agriculture, are producing a largely neglected by-product of surprising value. Just naturally and incidentally to their other activities and productions, these animals annually excrete a value which is nearly twice as great as the yearly gold product of California!

Such is the plant-food value of a by-product which we are now largely neglecting and wasting or unwisely using, and yet it is really the basis of soil conservation and restoration. Instead of being of less value here than elsewhere, it is perhaps even more valuable because of its relation to soil aeration, mellowness and moisture conservation. It can also be handled and used with a higher degree of efficiency and perhaps with less cost and danger of loss than in humid countries. As these considerations are realized and put into practical operation we shall have agricultural and horticultural production in all lines made more secure, enduring and profitable because the land is continually strengthened and improved; and therefore the claim that the extension of animal husbandry underlies the whole future development of California in farming lines is incontrovertible. It is a great truth for the upbuilding of the State: it is a great truth also for every individual land-owner who has his farming policy to decide upon.

Later we will discuss the other phase of stock-raising, also the financing problems suggested by the letter. More live stock, more fertility for the soil, with a constant supply of money to finance agricultural productions, mean much for California.

Queries and Replies.

Querists must give name and address.

Alfilaria or Filaree?

To the Editor: Please give a brief outline of the value of alfilaria in California, also its habits and soil and moisture requirements.—R. S. D., San Francisco.

Alfilaria or "filaree" (both names being corruptions or derivatives from the Spanish name of the plant, alfillerilla) is sometimes called pin-clover or pin-grass, but it is neither a clover nor a grass but a member of the geranium family. It is in California a very valuable, wild, winter-growing forage plant — generally grazed but occasionally cut for hay. It is an annual, starting with the fall rains, growing freely during the rainy period, making seed progressively while in growth, and dying with the drying of the soil early in the dry season. Its growth is directly proportional to the richness of the soil and the abundance of moisture, though it endures drouthy intervals in the rainy season well and is therefore entitled to drouth resistance, though it grows little during the California dry season except on low, moist ground. It must be sown each year either naturally or by seeding—actually it is almost entirely self-sown. It is a good wild feed during the growing season and its remains are a factor in the naturally-cured hay or what is called "dry feed" in this State. From California the plant has been distributed widely southeast through Arizona and beyond, where winter temperatures are not too low for its endurance. It is not a plant for "wintry" climates.

Walnut Erinose.

To the Editor: I am sending you a diseased English walnut leaf. I wish you would tell me what is the trouble and the remedy, through the columns of your Pacific Rural Press. The leaves have only got this way in the last year or two, and this year the walnuts are dropping off. The leaves are pretty much the same all over the tree.—F. F., Blocksburg.

The manifest trouble with the leaf sent is walnut erinose—rough patches of the leaf surface caused by a microscopic mite. This is an old trouble which seldom occurs widely enough to require treatment, which would be a thorough sulphuring as soon as you see the first sign of it. We never saw it abundant enough to cause dropping of the nuts, which is probably due to some other cause. Why did you not send also a nut which had dropped?

Apples on Pear.

To the Editor: When I read the article in the Pacific Rural Press of May 29, '15, "No Apples on Pears Nor Vice Versa," I was surprised. I am glad that I acted before reading that article. I have a Bartlett pear tree with five varieties of apples grafted into it. One graft that I put in, in 1913, matured two apples in 1914; one weighed 18 ounces and the other 15 ounces. There are three varieties of apples on the tree at the present time. I did not ask anybody about it. I thought that pyrus on pyrus was all right. We used the last of our apples in Jan., 1915. How is that for durable affinity?—W. H. L., Corning.

Thank you, but don't whistle too loud: you are not yet out of the woods. Two years does not constitute "durable affinity," but we hope you will demonstrate it. There are many exceptions to a rule of botanical relationships in grafting. Please tell us more about it, bye and bye.

New Cover Crops Prove Valuable.

[Written for Pacific Rural Press.]

"Only 40 per cent of the citrus orchards of the State grow any cover crop and only one-half of these are leguminous," says Dean H. J. Webber of the Riverside Experiment Station. Yet the primary feature in the control of mottle leaf seems shown by the experiments carried on at the the Station to be a need of organic material. And certainly the cheapest source of nitrogen and humus, as well as the best agent in opening the soil to water, air, and bacteria is a legume cover crop.

On March 4, W. M. Mertz, who has charge of the cover crop experiments at the Station, cut representative sections of the different crops, grown on the test plots to show their relative value. Purple vetch yielded at the rate of over twenty tons green per acre, having grown so thick that mallow was the only weed which could grow through. Lamb's quarter, or pig weed, which overshadows common vetch, could not get through the purple vetch. In the bur clover plots, beside the vetch, the weeds were pretty bad, while the Canada field peas and rye were a failure this year on account of the aphids and wire worms.

CROP YIELDS PER ACRE AFTER WINTER COVER CROPS.
[Arranged by W. M. Mertz, Riverside Experiment Station, Dec., 1914.]

Cover crop yields Mar. 4, '15. Tons (including weeds)	Percent weeds in cover crop	Average yield cover crops for 5 yrs. Tons	Variety green manure and fertilizer.	5 year average corn yields. Bushels	2 year average potato yields. Bushels	2 year average sugar beets. Tons	2 year average cabbage yields. Tons per Acre	Average percentage of increase of 4 crops for 5 years
14⅓	20	12	Common vetch	37.9	171	15.3	5.3	26.0
		16.5	Rye, 591 lbs.,dried blood	36.5	191	16.0	4.6	21.2
15⅔	20	12	Bur clover	38.1	228	17.3	5.8	27.4
		7.5	Rye	30.2	152	13.4	5.3	
21⅔	5	18.2	Purple vetch	55.2				54.3
		10.6	Rye, 297 lbs.,dried blood	34.3	166	12.5	5.9	12.1
18*	30	11.5	Ervilia vetch	40.9	231	16.7	9.0	36.4
		8.3	Rye	27.5	166	10.7	5.2	
†	98	9.0	Canadian field peas	40.0	243	17.6	7.8	49.5
	17		Rye, 1188 lbs., dried bl'd	43.9	218	17.7	7.6	52.4
12¼	65	14.0	Tangier Peas	45.0	227	20.5	8.2	65.2
		5.8	Rye	28.8	163	12.3	3.8	
17	15	12.8	Melilotus indica	49.2	252	19.8	9.9	66.6
	15		Rye, 594 lbs.,dried blood	42.7	204	15.7	6.5	30.3
10⅔	75	12.3	Fenugreek	47.3	235	16.8	6.1	33.5
		6.6	Rye	35.2	164	12.7	5.9	
12⅓	40	12	Lentils	45.9	204	19.5	6.9	29.2
Average yield legume plats				44.4	226	17.9	7.4	
Average yield rye plats				30.4	161	12.3	5.0	
Average increase over rye plats				14.0	65	5.6	2.4	

*Plus dasyscarpa.
†Failure due to poor germination and severe attack of aphis while crop was young.

The effects of various cover crops on yields of annual crops grown after plowing under the winter growth of the covers, is shown in the accompanying table, arranged by Mr. Mertz. The test was made in the open on annual crops, according to C. S. Milliken of the Station, on account of quicker results and greater convenience in measuring them. The tonnage would probably be different if these cover crops were grown in orchards, but the test shows their relative value under conditions as similar as possible. According to Mr. Milliken, the value of a cover crop depends on the tonnage of organic matter produced, and not on the number or size of the root nodules, which are simply factories in which the bacteria work, to fix the nitrogen of the soil air into the plant tissues. Perhaps the bigger the factory, the bigger the output, but the output is the final measuring of value.

Nitrogen Value of Legumes.—While Mr. Mertz agrees that legume roots, including the nodules, analyze less percentage of nitrogen than the tops, when nearing maturity, he goes a step further in locating the value of different legumes. By his measure, the tonnage of nitrogen fixed in plant tissues is the factor that determines a legume's relative value, in cases of equal tonnage, and equal growth in the growing season available. For instance, melilotus yielding sixteen tons per acre produced 144 pounds of nitrogen, while rye with fourteen or fifteen tons per acre produced only forty pounds of nitrogen. It is reasonable to suppose that the forty pounds of nitrogen in the rye plants came from the ground, since no means are known by which rye may fix atmospheric nitrogen. Mr. Mertz figures that it is also reasonable that the melilotus would not draw any more nitrogen from the ground than the rye did, so that its extra 104 pounds of nitrogen must have been drawn from the soil air.

In decomposing the cover crop plants into humus and plant food, certain bacteria have perhaps. the leading part. But this type of bacteria must have nitrogen in order to support their activity. In making humus from rye, bacteria must draw more or less nitrogen from the soil; and this temporarily reduces the amount available for the economic crops growing at the time. Melilotus and probably all other legumes furnish within their own tissues all the nitrogen which the bacteria need for food while decomposing the cellulose into humus and plant food. Thus, no nitrogen is drawn from the soil in the process of decomposition; and all of the nitrogen fixed from the air by the legumes in their own tissues will later be available for the money crops. Moreover, legumes seem often to be of special benefit, while growing, to certain crops planted with them. Visitors to the Riverside Station saw ordinary oats growing among the purple vetch with such broad, heavy, dark green leaves and tremendous stalks that they would not believe it was oats, but thought it was vigorous young corn; and were not otherwise persuaded because it had not yet headed out. But on March 4 Mr. Milliken showed the writer indisputable evidence that they were oats by pulling out a head of one of the most advanced plants. The same effect is noticed on grain at the Limoneira Ranch.

The theory proposed by Mr. Mertz to account for this good effect of legumes on non-legumes growing beside them is that probably the non-legumes extract some plant food from the outer parts of the nodules where the dead bacteria are decomposing. Whether the effect is the same on orchard trees is yet to be determined, though Mr. Mertz points to a noticeably good color on citrus trees in orchards planted to legume crops, and a yellowing of citrus trees where grain cover crops were growing.

Looking over the table, it will be noticed that in the five-year average of the different cover crops, purple vetch without additional fertilizer was followed by a heavier crop than rye even when 1188 pounds of blood had also been added. The purple vetch gave 54.3 per cent average increase for the four crops, while the expensive rye-blood application gave only 52.4 per cent. A still greater increased crop followed the tangier peas, though they yielded a lighter tonnage than the purple vetch. The highest increase of crop followed melilotus, which has still less tonnage than the tangier peas. Perhaps this extra good effect was due to the higher nitrogen content of the melilotus, or to its deep root which acts as an ideal subsoiler.

Seed for the purple vetch was very scarce last year, since this plant has only recently been introduced by the Department of Agriculture, and practically none will be available next year. Most of it was grown in Oregon last season, but there were scattered plots of the purple vetch all over the South this year. The Limoneira and Sespe ranches had some hundreds of acres, but the Limoneira people, at least, did not save any for seed and will have to use melilotus next year. Purple vetch plants in an orchard in Santa Paula canyon were observed by the writer where they had gotten into the limbs and climbed seven feet tall. This crop has been very successful wherever tried. The melilotus has been more generally planted, especially around Santa Ana, where the finest stand observed by Mr. Mertz was found; and around Redlands and Colton, where several hundred acres have been planted in various orchards. Even in the gravel near Upland, melilotus may be a great cover crop, as noted in another article.

EARLY BEAUTY PLUM.

To the Editor: Answering your inquiry, we have fruited the Beauty plum now for three years. They ripen two weeks in advance of the Climax; are of a similar shape; will average about seventy-five per cent the size of the Climax and are very nearly the same, though not as firm texture. **The Silva-Bergtholdt Co.**
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State Commission Markets

(Continued from page 25.)

yes, you say you have laws prohibiting a person destroying food; but the facts are there. It is very easy to allow fish to be out in the sun for a few hours and to be spoiled, and then, of course, it is thrown into the bay.

"It happens that my father is one of the commissioners at Agnews Asylum. They use a great deal of fish there. It is very valuable food for the patients—and hundreds of patients are there, kept at your expense as taxpayers of this state. Repeatedly has he gone to the fishermen of Santa Cruz and stated to them, 'We would like to have a bid from you to buy fish direct for the patients of Agnews.' They said they would be delighted to have the opportunity to render a bid. Did they do so? They have never even sent in a bid. And, I believe, they do not dare. The fish trust of San Francisco would cut them off. They have to send that fish up to San Francisco, and then it has got to go back to the State Asylum at Agnews, and at a fancy price. These are the conditions in this state that those who are working for the best interests of this state, must bear in mind.

"There is one thing particularly in this proposition that I wish to emphasize, and that is the information bureau. This bureau is to send out bulletins regularly; it is to tell the farmer where to send his goods, where they can go to prevent a glut on the market, at any particular spot at any particular time. The market director is to give them instructions as to how to pack their goods so that they will be salable. He is to give them all such information which the private commission man has not the time or the patience or the equipment to provide. I believe that this one feature of the State Commission Market is enough to justify the passage of this bill. Many of the people of my county are small farmers. They have little home places tucked away in the Santa Cruz mountains—a few acres where they raise a little of this and a little of that. They are not in the class which ships goods in great quantities for a foreign market. Those small farmers are the people that I am interested in particularly, and there are such people all over the state. I do not claim that this state market is going to handle all the business or the large business; but I claim that those people are not in a condition really to protect themselves. They are at the mercy of the private commission men. They are a class of people who have no say whatever as to what their product shall sell for. They must simply send it to the market and trust to Providence that they will get a price that will compensate them; but no matter what the return is, no matter what their product's disposition is, no matter what the result is, they must accept it. There are unscrupulous men in the commission business, as we will all agree there are in every position, and they send reports to these farmers as to the disposition, that there was so much spoiled, so many eggs broken, and this and that; yet often when a farmer is doing business on a big enough scale to go and investigate he finds the reported conditions are not true. I have tried to do something in the interest of those who are small producers, who are not in a position to fight the sharp commission men who sometimes exploit them."

PURPLE VETCH SEED SCARCE.

[Written for Pacific Rural Press.]

Purple vetch, the cover crop which has proved of such immense advantage over most all other legumes for winter growth in the orchard, will not be planted to any extent this year in California because the Oregon crop from which most of the seed is obtained, is a failure.

The Fruit Growers' Supply Company, the buying corporation for the California Fruit Growers' Exchange, had contracts with Oregon growers, but the contracts had to be cancelled.

The Limoneira Ranch, which had some hundreds of acres of purple vetch growing this year, saved very little seed and will sow melilotus next fall, though the purple vetch is preferred.

NON-BEARING PEACH TREES.

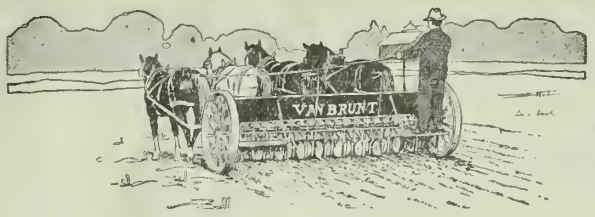
To the Editor: I was much interested in the article by Miss French in the Pacific Rural Press of May 29 about pruning to promote bearing of apple trees. I think this is a most important matter and would like to see discussion of the principles as applied to peach trees. The Southern California Canning Co. at Ontario has a hundred acres of peaches, and although 8 years old some part of the Tuscan clings do not bear as much fruit as they did at 4 years. The trees were thought to be making such excessive growth that they were cut back severely and now many of them just go right away and make wood growth year after year. The part that fruited lightest last year is so again this and the growth is so coarse that it is sure all wood again.

This condition appears to apply to so many kinds of fruits. I remember the company that I was with in England had some Black Currants infested with a mite that ate out all the fruit buds. They pruned and burned so severely that I do believe they reduced the mite to a negligible quantity, but although the bushes looked extremely thrifty they had lost the fruit bearing habit and were eventually pulled up and destroyed and the company went out of black currant production because they did not know how and when to prune to produce fruit. Strawberry beds respond in some manner if plowed and harrowed excessively at wrong time, making all leaf and little fruit, and the owner plows them up saying they don't do well on this land or, in a common expression, the land has got tired of them.

Ontario. HARRY WARD.

[It is largely guesswork to comment without sight of the trees and more knowledge of the conditions under which they are growing. The peach is the best tree we have to produce both fruit and make heavy wood growth, and therefore, ordinarily, one can heavily winter-prune and still get fruit. Still, if the bearing is shy one has to apply the general principle that summer pruning, late enough so that a new break of laterals is not made, will have the effect of making fruit buds more likely to develop strongly and at the same time take away from the roots some of the returning sap which forces them to make so much wood the following year. The same effect is produced, in a less degree, by stopping the winter pruning. Evidently if the Tuscans were very heavily cut back in winter to improve bearing, they were given exactly the wrong treatment to accomplish that end. They should have been summer-pruned or not pruned at all. If they had been heavily manured, that too should have been stopped and, if they had been over-irrigated, that should have been reduced. It is quite easy to make black currants unfruitful by too much manuring or winter pruning, and strawberries too generously treated are well known to run to leaves.—Editors.]

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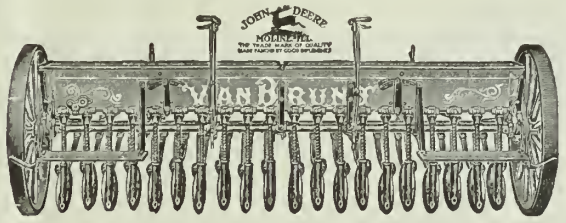
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HOLES IN BED ROCK.

To the Editor: Will fruit trees that have been planted where the bed rock is close to the surface, die in a year or so? We planted some young trees, blasted the bed rock and they look good, but have been told that eventually they will die because of water collecting about the roots in wet weather. Is this so?—E. J. H., Modesto.

[Unless you have some way for the water which collects in the holes you have blasted in the rock to drain away, your trees will surely die unless they can find enough soil above the bedrock to support roots enough to support the tree growth. Water in the holes will get stagnant and rot the rootlets in it, perhaps injuring the tree as well.—Editors.]

A plant for the manufacture of inferior walnuts into by-products will be opened within a few months in Los Angeles, according to C. Thorpe, manager of the California Walnut Growers' Association.

Apple Growing Costs About 25 Cents.

[Written for Pacific Rural Press.]

Chas. King's expenses raising an average crop of 5,000 boxes of apples in Sonoma county are about $1300. This would be about the same with a crop of 6,000 or 4,000, for some of the trees, especially the Wagners, are alternate bearers, this variety having as many as 1200 boxes one year and as few as 100 another in spite of thinning done with a view to overcome the trouble.

He has 8½ acres of Gravensteins, 7½ Newtons, about 3 of Wagners, Spitzenburgs, and Bellflowers. The Newtowns are 20 to 40 years old and the others range from one to 40 years.

Of the $1300, about $70 is spent for winter pruning. The plowing about April 1 is done with his own team in about eight days. A man is hired at $2 per day. A team and man ten hours per day would cost about $5. The orchard is cultivated eight to twelve times per season until the tree props are in the way, requiring one and a half days for each. This if hired would cost about $40 for plowing and $75 for the cultivations.

Spray Schedule.—In February when the leaf buds are nearly ready to burst, the whole orchard is sprayed in two days with a Bean Giant Duplex power sprayer, using about 3,000 gallons of lime-sulphur for San Jose scale. Mr. King is determined to do a good job and so insists on 200 to 225 pounds pressure at the pump, though some people think that this destroys some of the fruit.

"If so," says Mr. King, "it only amounts to a good thinning even in the calyx cup spraying, and no damage is doue after the fruit sets."

The lime-sulphur spray is applied as late as possible to get some of the aphis, too; but if the flower buds are out, the lime-sulphur at winter strength would kill the fruit to a certain extent. This application costs $75 for labor and material.

To prevent scab and mildew, the Newtowns are sprayed with 1200 gallons of Bordeaux at a cost of $15 for labor and material just as the pink shows. The other varieties are too tender, according to Mr. King, for the Bordeaux spray; so he uses 12 pounds of atomic sulphur per 100 gallons to spray them at this time, at a cost of $14 for material and labor.

When three-fourths of the petals are fallen, a combined spray for codling moth, scab, and mildew is applied. Six pounds arsenate of lead, ten pounds of atomic sulphur per 100 gallons of water are used at a cost of $42. Ten days later, another spray is applied with the arsenate reduced to 4 pounds and the sulphur to 6 pounds in the same amount of water, costing $29. About July 1 a 3-pound arsenate spray is applied, for $10.75. This is the last one that the Gravensteins get unless they are especially late. Last year they were off August 10, but some times they hang till September 1. About August 1 a 2-pound arsenate spray is applied to the late varieties to catch the late broods of codling moth, at a cost of $4.50.

Fertilization.—The whole ranch is supposed to be manured every two years with eight carloads of about 40 ton each on an average. This is brought from San Francisco at 60 cents a ton plus 85 cents for freight and 30 cents for hauling up from Sebastopol, making the total cost per ton $1.75. A little commercial fertilizer is used and part of the ranch was limed at the rate of one ton per acre, costing $7.50 per ton delivered at the ranch. There was some rye cover crop, but most of the orchard simply has volunteer weeds and bur clover. No effect of the lime or the rye has been noticed.

Picking.—Picking of the Gravensteins costs 8 cents per box because they must be handled most carefully and picked four times in order to get them when in best condition for shipment through the Sebastopol Apple Union. The Union furnishes the shook and paper, and packs the fruit at a cost of about 35 cents per box, not over $300 a year for Mr. King.

The other varieties are held in a cold storage plant on the farm, which was described in the Pacific Rural Press some months ago, and sold locally at greatly increased prices. These cost only 5 cents per box for picking and only one picking of the orchard is necesary.

The candidate for the position of locomotive fireman had studied the impressive figures, showing the aggregate loss of the company each year resulting from waste of coal and oil. The first question put to him was what he would do if he found his freight train confronted by an oncoming passenger train. He hesitated only a moment, then replied: "I'd grab a lump of coal in one hand, the oil-can in the other, and jump for my life."

A bumper wheat crop is reported being harvested in Kansas.

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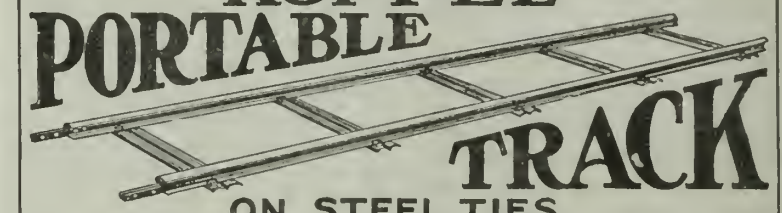


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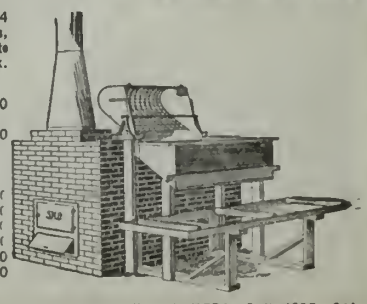
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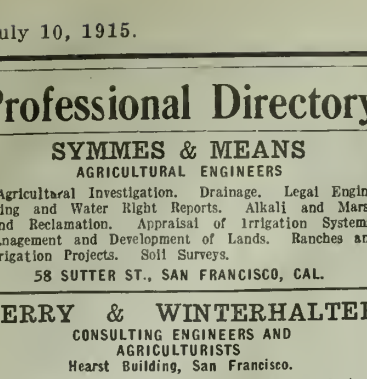
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Resulphuring Dried Fruit

"The trouble with the dried fruit consumption of this country I believe is due to the miserable practice of resulphuring done by the dried fruit packers, very largely, as I believe, for the purpose of increasing the weight 10 to 15 per cent. A freshly cut peach sulphured as is common before drying, is not hurt by the sulphuring at all, since any of the sulphurous acid which may be left on the peaches is thoroughly evaporated during the days in which the fruit lies in the sun," says a marketer of many years' experience. "But now comes along the packer and buys fruit which may or may not have been overdried through unskillful management. He buys the peaches in bulk and when he prepares to pack them in boxes for market he steams them until they have taken up a great deal more moisture than is necessary to make them pack nicely. Ten per cent moisture increase on a 40,000-ton crop would be 4,000 tons which easily may prove a very "big stick" in the hands of packers to knock down the prices of the next crop, for that much extra holdover would be bad.

"But this is not all of the miserableness of the practice. The steamed peaches would not keep in that condition, nor would they be attractive to the consumers. Hence the packers resulphur them, and this time the sulphurous acid penetrates to every cell of the fruit. It makes a product which you can eat once or twice, but if you eat it very steadily, it will eat the insides out of you. This is the reason why dried peaches are not more in demand. They are simply "embalmed" with sulphurous acid to make them keep with the excess of water, and to give the cheapest grade of bulk peaches, formerly known everywhere as China peaches, an appearance which makes them salable in the higher grades. The "embalming" spoils the sweet taste of the dried fruit as it comes from the grower, and makes it sour to an extent that limits its use."

[On the other hand, a packer of dried fruit for a growers' organization, who has many years' experience both independently and in his present position in packing and marketing dried fruit, maintains that no injury can possibly come to the digestive apparatus from any sulphurous acid retained in resulphured peaches after they have been cooked. He points out that without resulphuring, the dried fruit demand surely would be practically nothing; for nobody would buy the peaches if packed as they ordinarily come from the farm. It is necessary to soften them with water or steam to pack them, though some packers overdo the thing. It is necessary to resulphur them both for the color which will make them marketable, and to kill whatever moth eggs may be in them. Many times when a box of dried fruit is opened, a few worms will be found, having crawled as near the small cracks in the box as possible. This, of course, kills the sale of the dried fruit and must be prevented. The fact that growers keep dried peaches in bins until the next season without resulphuring is due to the worms pupating and later flying away as moths without having done noticeable damage to the fruit. If they were confined in packed boxes so that succeeding generations of worms had to get their living out of the fruit, it would shortly be ruined.]

BUDDING-OVER PEACH TREES.

To the Editor: Last fall I had a lot of peach trees budded. The trees were four years old on a heavy clay soil; strong and vigorous. The bark slipped fairly well when the buds were set. I took great care in selecting the buds from thrifty trees known to be heavy bearers. The limbs used for budding were from ½ inch to ¾ in diameter. The appearance of the buds after setting was that a large number were taking hold, but when spring came not over one per cent was living and the cut where the bud was set was black and gummy. I now believe the whole trouble was in the tying. I have done considerable budding and they were not tied as I would have done, but I accepted the job and took the consequences. I know of no other reason for failure. I think I will try it again at once.

A Fresno man who claims to be "experienced" told me he'd been successful in working peach trees over by cutting off the old wood and budding the sprout when it was of the right size.—J. C. G., Modesto.

[The best time to bud peaches in the old bark is as soon in the summer as you can get well plumped buds on the new growth and this can be hastened by pinching the tips of the shoots you desire to take buds from. Such buds should be forced to grow by cross cuts in the stock above the buds or by breaking down part of it—cutting away cleanly when the bud has made a few inches of growth. We never tried to bud in the old bark in the fall with the idea of holding over. Cutting back and budding in sprouts is a good way.—Editors.]

CULTIVATE AFTER EACH IRRIGATION.

To the Editor: Is it a good idea to give a peach orchard two irrigations a few weeks between and without plowing or cultivating in the meantime, but water again in same furrows and thus save work? Or is it harmful to the trees to leave the soil untouched between the irrigations? Our irrigation season is short—generally ends July 1, and sometimes sooner. Some make it a practice to water the orchard a little before the water goes out and let it lie. Then if the water is still in a few weeks later, irrigate again.—G. E. C., Dinuba.

[In all our inquiries of successful fruit growers and other irrigators, the point emphasized most emphatically is that cultivation should follow as soon after irrigation as possible. The reason for this is that without cultivation the ground bakes and dries out, wasting irrigation water when trees most need it and injuring the roots, both by getting hotter deep down and by hardening the ground and rupturing the rootlets.—Editors.]

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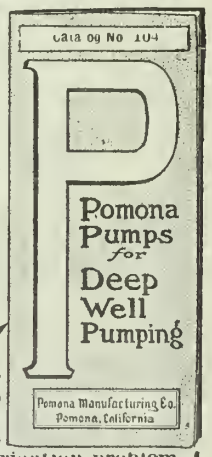
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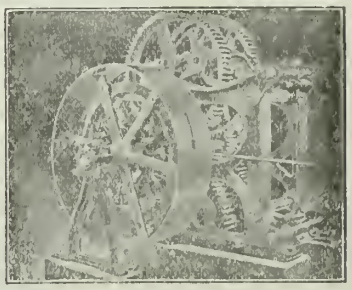
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Mechanical Power on the Farm.

SMALL POWER, MUCH IRRIGATION.

[Written for Pacific Rural Press.]

Irrigating 10 acres of olives, oranges, and peaches in Tehama county with a 3 h.p. motor was made possible for R. L. Fuller by the use of underground pipes and a dozen hydrants. Three of these hydrants were on high points far distant from the well, but the water was forced thither very easily. The well is 140 feet deep and the pump has a 3-inch discharge, forcing the water to whatever section of the place Mr. Fuller wanted to cultivate a few days later. There is no loss of water on the way and no seepage which would prevent cultivation between the well and the farthest high point on the place. The hydrants enabled him to use a large or small stream of water as desired and to shut it off, just when enough had run onto the land.

TRACTOR AND SUBSOILER.

[Written for Pacific Rural Press by Lee Wolfe, Foreman for Boynton Bros., San Jose.]

Answering your inquiry relative to our tractor: We use it for everything practically—plowing, working down, cultivation, subsoiling, etc. Last summer when the fruit rush came, our horses began to give out in the hot weather and extra work. We turned to the tractor; coupled up two wagons and found the combination quicker, easier, and more efficient. It is this same story with all our orchard work.

Perhaps it would be of interest to mention one tool which we have built and found highly satisfactory for subsoiling and irrigation furrows. By mounting a right and left hand mold-board oppositely on a subsoiler we have a very neat little ditcher, which we pull to a depth of twelve or fourteen inches. We run three ditches between each row and get an excellent spring irrigation. We are able to raise a cover crop and let it grow until it is in the best shape to plow in as fertilizer. The tractor and heavy plow puts any growth under the ground in good shape and quickly. The ability to get the work done when the ground is in the right condition is a big factor as it makes better ground to work on, better trees, and best of all, better fruit.

Minimizing Trouble.—To get back to tractors, however, operating expenses are almost nominal you might say. We do the work of ten or twelve horses with two gallons of distillate per hour and use perhaps a quart of motor oil and a little cup grease a day. As to trouble, repairs, break-downs and such they come, certainly. We have those things in all kinds of machinery and expect them. The big secret in minimizing tractor trouble, judging from all our experience and observation, is never to overload your machine and to run slow. Failure to observe these two points will bring grief every time to any tractor. Your automobile will run fifty miles an hour, yet you wouldn't think of running it at that speed ten hours a day. A tractor has a right and demands just as much consideration. If it is rated 15 h.p. give it a 12 h.p. load, and work it longer if necessary, rather than give it an 18 h.p. load, which it will handle perhaps.

HANDSTICKS FOR POWER.

[Written for Pacific Rural Press.]

Whenever one has a rope and needs to lift or pull something much heavier than himself, and horses are not available, a Spanish windlass in the rope gives a tremendous mechanical advantage.

The apparatus is simply two round sticks of tough wood, perhaps two inches in diameter and about four feet long. The rope is left slightly slack but tied to the thing to be moved and something else which is immovable. One of the sticks is twisted into the center of the rope where there is plenty of room to work it around. It is then twisted around lengthwise of the rope and the other stick put into the angle formed by the first stick and the rope, at right angles to the first stick.

The first stick is then revolved around the second one, thus winding the rope around the second stick by means of the leverage gained by use of the first stick. One man or two can exert enough power to move a very heavy weight in this way.

USE PULLEYS TO LIFT.

[Written for Pacific Rural Press.]

A much neglected source of power on the farm is the use of ropes and pulleys. Whenever much machinery is to be handled, stored, or repaired, there should be a place where a set of pulleys are already in place un-

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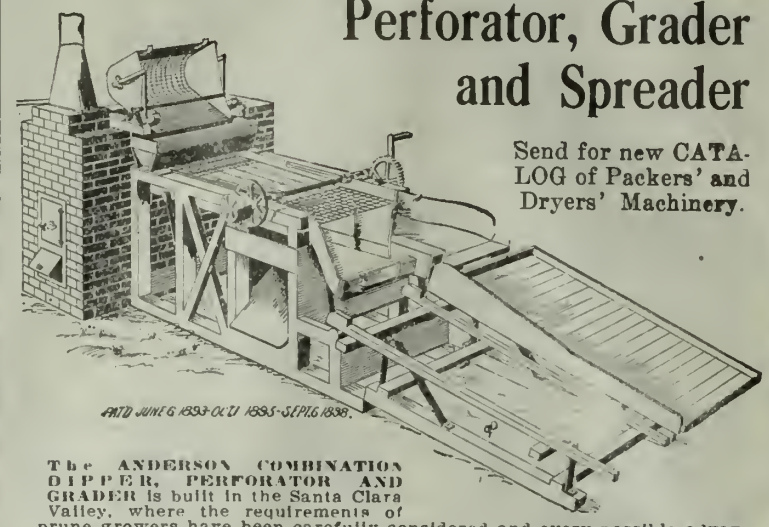
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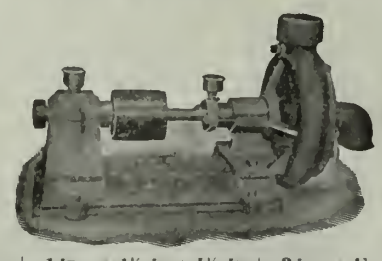
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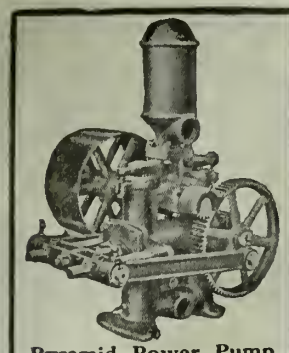
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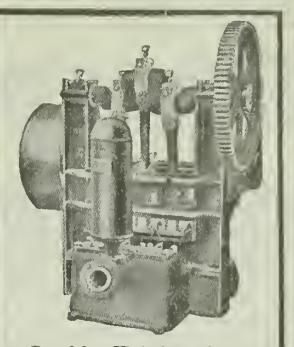
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Goulds Triplex Pump

der which the machinery may be hauled and the parts lifted by this source of power. If the pulleys are run on a track like a hay fork heavy pieces may be lifted and moved easily.

In general, a ¾-inch rope running twice through a double pulley hung to the rafters of a shed, and once through a single "movable" pulley whose hook is hitched onto the machinery to be lifted, is enough for ordinary farm use.

Such a rope single would hold the weight of about a ton if it is new and made of Manila hemp. When run through the pulleys, there are four strands of this rope on which the weight of the machinery rests, and consequently as much as 8000 pounds could be lifted with a ¾-inch rope. It is well, however, not to work the rope to its full capacity, for when the limit is approached it is likely to be reached unexpectedly and something falls.

In lifting heavy articles with such a "double-single" set of "blocks," one must be sure that the building from which the pulleys hang is substantial enough to bear the weight and also the rope into which the upper pulley is hooped. For this, several turns are wrapped around the rafter and the pulley hook should not be run through the turn which runs into the knot.

In order to get extra power in lifting these heavy weights, a secondary or "luff block" is used, consisting of a similar or lighter set of pulleys and rope, the double block being hitched onto the long end where the pull would naturally be made, and the single block being hitched to a post somewhere convenient. This makes it possible for one man to lift a ton or so by pulling on the rope of the luff block.

PULVERIZER WITH OTHER TOOLS.

To the Editor: Answering your letter to the Paicines Ranch regarding the use of the "Cunningham" Pulverizer, we like the roller very well, but recognize its limitations. It takes practically no power to pull it and we operate it in conjunction with other tools. We had it supplied with a short pole and then fitted a swivel wheel under the pole. We can thus operate it with a tractor or horses. Four of the latter handle the 12-foot roller with ease, and there is no weight on necks nor jarring of shoulders.

As a substitute for harrows, it is of no value, as an appreciable moisture in the soil causes it to clog badly. However, when used on a dry surface and alone or in front of other tools, such as the spring tooth harrow, it does satisfactory work. Its chief advantage lies in its ability to pulverize without packing the surface and that is our chief reason for choosing this pulverizer.

Paicines. Eric A. Dunipace.

FRESNO FAIR SEPT. 28 TO OCT. 2.

To the Editor: There will be the regular District Fair held at Fresno this year, Sept. 28 to Oct. 2. Although we are pulling strong in our community for the Exposition, at the same time we wish it known that we are not going to disappoint many exhibitors. In most every department we are adding to our premiums each year. This year in the cattle and dairy departments we are just doubling the premiums over those offered last year. We will have one new cattle barn to house one hundred more stock, and a new fireproof building containing 15,000 square feet of floor space for exhibits. In general we are improving our grounds as fast as funds will allow, with the aim of having as beautiful an agricultural park as there is to be found in the west.

C. G. Eberhart, Secretary.

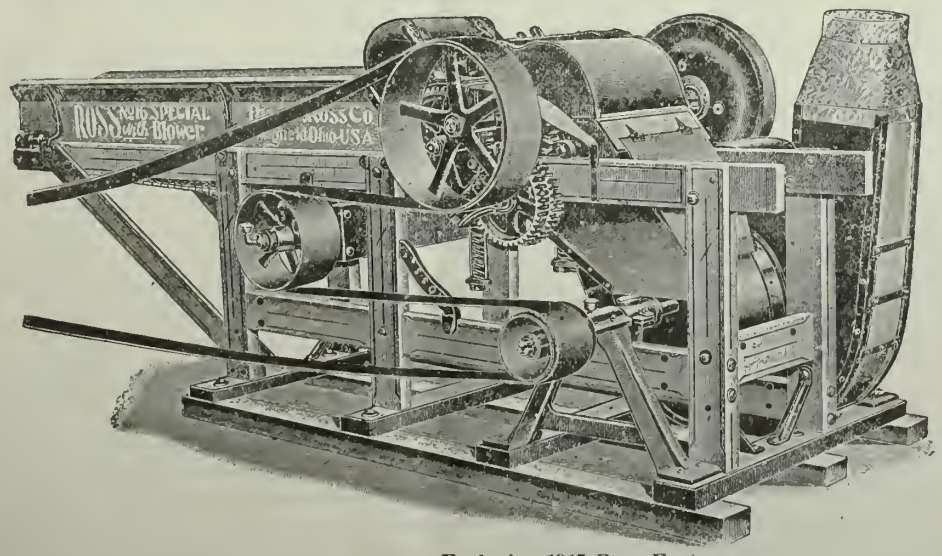
California ranks third in the United States in the number of automobiles in use. New York is first, and Illinois second.

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General Agricultural Review.

OLIVES AND NUTS.

The California Almond Growers' Exchange has 18 locals and 851 members, according to a report received on July 1.

That the standard of California walnuts will be raised is expected at the next meeting of the California Walnut Growers' Association.

Twenty-five per cent above normal is the estimate made of the Orange county walnut crop which is expected to be the largest in its history.

The Oakdale branch of the California Almond Growers' Exchange is reported to be showing rapid growth, it having thirty members at the present time.

That the walnut crop will be 12,500 tons, or the largest crop in the history of the industry, is the estimate made by C. Thorpe, manager of the California Walnut Growers' Association.

CITRUS AND SEMI-TROPICAL.

The San Fernando Fruit Growers' Association has shipped more cars of fruit this season than in any other season in years.

The Valencia crop of California is 2300 cars less than last season, and growers have received an average of $1 per box more than a year ago.

The Lindsay Valencia crop has practically all been sold, and it is expected that the price will average approximately $1.80 f. o. b. Lindsay.

Corona is to have the manufacturing plant of the newly organized Exchange By-Products Company, an association composed of lemon growers affiliated with the California Fruit Growers' Exchange.

The Mid-California Citrus Association of Tulare county met recently and elected the following officers: P. M. Schofield, president; Burt Cole, vice-president; H. F. Brey, treasurer; and F. L. Kennedy, secretary and manager.

The sale of 700 acres near Corona is reported to have been made by M. J. Monnette to the German-American Mortgage company. At the present time the land is in alfalfa and barley, but it is the intention of the new owners to plant it to lemons and subdivide the planted land.

It is reported that within two weeks, 213,000 boxes of Sicilian lemons were sold on the New York markets. Although the fruit from over the sea arrived in poor condition on account of the long journey it had, it supplied the market to the detriment of the home grown product.

The Zante Citrus Association of Tulare county has elected the following officers and directors: E. E. Graham, president; E. A. Marshall, vice-president; J. F. Canty, A. J. Davis, Wood Sandidge, S. S. Hough, and E. E. Jones, directors; E. C. Grant, secretary; and W. H. Grant, manager.

A meeting of exchange men was held in Lindsay on June 29, which was addressed by G. Harold Powell, general manager of the California Fruit Growers' Exchange; R. J. Grassly of Chicago, head of the advertising department; and D. W. Francisco, also of Chicago. "More push carts and more orange stands" were advocated by Mr. Powell, in urging the increased consumption of oranges, the ratio of which is increasing more rapidly than the population.

DECIDUOUS FRUIT.

The Ludwig fruit ranch of Shasta county, comprising 330 acres, has been sold by its owners to a San Francisco capitalist at a reported price of $200,000.

Work at the Armona plant of the Kings County Packing company is in full swing. There are three hundred employed there now canning 500 tons of apricots.

The prices on apricots in the Santa Clara valley during the past week were $25 per ton for shipping fruit, $22.50 to canners, $17.50 to dryers, and 7 cents per pound for dried apricots.

On account of unfavorable weather conditions during May, it is estimated that the apple crop of the Cohasset district of Butte county will not be over 10 per cent of a normal crop; fifty per cent of the plum crop is also ruined; and the prune crop hurt to some extent.

In order to keep the market stable and prevent the unloading of inferior stuff on it before the standardization bill recently passed becomes effective, the directors of the California Green Fruit Association have chosen a committee of four men to urge growers and packers to maintain certain standards.

Pooling this year's dried peaches and probably placing them in paraffine muslin sacks and storing them until favorable prices can be obtained, will be the result of an organization formed recently in the Fairview and Gray Colony school districts of Fresno county, where there is a big tonnage of peaches, very little of which has been contracted for.

An important step was taken recently by the apple growers of the Pajaro Valley in the organization of the Watsonville Fruit Distributors, a co-operative concern to handle the packing, shipping and marketing of the apples grown in that section. The same progressive spirit was shown in Aptos when articles of incorporation were filed by the Aptos Fruit Growers' Association, who will buy and sell orchards and fruit crops, and pack, can, and market fruit.

GRAPES AND SMALL FRUITS.

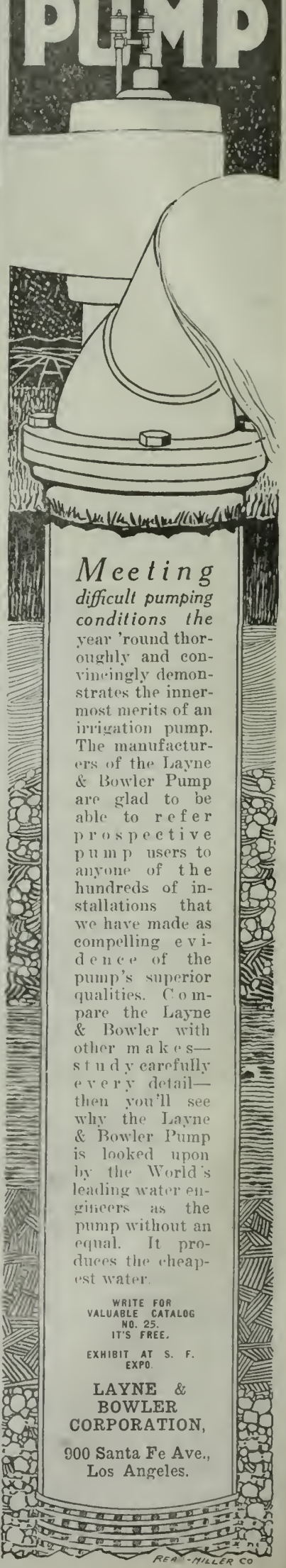
The shipments of Thompson seedless grapes from Imperial and Coachella valleys commenced last week. The crop will be larger than normal.

The plant of the Griffin & Skelley company at Sultana burned down on June 29. It contained 150 tons of raisins belonging to the Associated Raisin Company.

The prospects for a larger than normal output of table grapes from the Fresno section at this time are very good. While the bunches on the vines are not more numerous than usual, the berries are larger.

Last year San Joaquin county led all others in the State in the shipment of table grapes, sending out 3245¾ cars. Fresno was second, with 2768⅓ cars; Sacramento third, with 1400 cars; and Tulare fourth, shipping 799½ cars.

Layne & Bowler PUMP



Meeting difficult pumping conditions the year 'round thoroughly and convincingly demonstrates the innermost merits of an irrigation pump. The manufacturers of the Layne & Bowler Pump are glad to be able to refer prospective pump users to anyone of the hundreds of installations that we have made as compelling evidence of the pump's superior qualities. Compare the Layne & Bowler with other makes—study carefully every detail—then you'll see why the Layne & Bowler Pump is looked upon by the World's leading water engineers as the pump without an equal. It produces the cheapest water.

WRITE FOR VALUABLE CATALOG NO. 25. IT'S FREE.

EXHIBIT AT S. F. EXPO.

LAYNE & BOWLER CORPORATION,
900 Santa Fe Ave.,
Los Angeles.

REA-MILLER CO

The Board of Directors of the California Grape Protective Association have made preliminary plans for the proposed circulation of petitions for an initiative constitutional amendment providing for compensation to grape growers and wine makers in the event of unfavorable legislation.

The California Associated Raisin Company is endeavoring to prevent growers from drying wine grapes this season, fearing that an inferior quality of grapes may be dried and thus spoil the market for the standard varieties. They are, therefore, seeking an arrangement with the wine men whereby all wine grapes which might be dried into inferior grapes will be made into wine.

GRAIN AND FIELD CROPS.

The planting of black eye beans is being done on the overflowed lands of the Mormon basin district of Colusa county.

A large head of water is pouring into the Tulare Lake bed, according to a report received, and farmers are rushing to harvest their threatened crops.

Brawley alone, of Imperial Valley, has shipped daily 100 to 150 cars of cantaloupes since the season began early in June, besides hundreds of cars of watermelons.

The experimental planting of two acres to rice in Shasta county has been reported. Its condition at the present time is said to promise a good crop, upon which depends future planting of rice in that county.

The record for daily shipments of cantaloupes from the Imperial valley was broken last week, when within a period of 24 hours 237 cars loaded with fruit was sent out. It is expected that about 4000 cars will leave the valley this season.

It is reported that 40,000 tons of hay, compressed by means of a hydraulic press to bales weighing 125 pounds, has been recently shipped from San Francisco to Australia. While the selling price is not known, the freight is said to have been $22.50 per ton.

An order has been placed in the Porterville district by W. H. Bloomingdale, reported to be an agent of the allies in Europe, for 15,000 tons of alfalfa hay to be delivered in bales of 80 cubic feet, shipped to Galveston, where it will be reshipped to Europe.

County Horticultural Commissioner G. W. Harney, of Yuba county, estimates the season's crop of rice at a valuation of $240,000. Mr. Harney has recommended to the Board of Supervisors the erection of a rice mill, stating that the extent of the industry in that section warrants the venture.

Scott, Magner and Miller of San Francisco write us as follows: "We report total arrivals of hay on the San Francisco market during the week ending today at 4350 tons. There has been very little life to the market situation as the demand for this article for local consumption has continued to remain decidedly moderate. There does not appear to be anything in the present outlook to lead one to expect improvement in our purely local demand for a while at least. Our hay markets during the last few months have been mainly maintained on account of our export activities through which channels large quantities of hay have been turned and thereby getting the surplus of the old crop out of the way and relieving the situation so that the new crop may come in on a better basis. Harvesting the hay crop is going on very satisfactorily and the quality of our wheat hay and our red oat hay looks most attractive. The feeling among the producers appears to be firmer on choice lots, although we do not believe that there has been much trading done during the week. Most of the hay arriving is of the old crop, very little of the new grain hay being ready as yet for shipment. There appears to be quite a volume of volunteer hay, but of such character that it is expected to be slow in moving under prevailing conditions. Alfalfa hay has been coming in in moderate quantities with the market set and fairly well maintained."

BARLEY ESTIMATES.

A sheet giving the statistics of production and crop movement of barley on the Pacific Coast has just been issued by the E. Clemens Horst Co. of San Francisco. It shows that the commercial estimate of the crop grown in California in 1914 was 861,000 tons against an average of 497,000 tons for the last 15 years; the carry-over from the previous year's crop in 1914 was 54,000, and for the last fifteen years, 46,000; the exports in excess of imports at all ports, 456,000; for the last fifteen years the average was 175,000; the home consumption in 1914 was 350,000, while the average was 321,000; the carry-over to the next crop year in 1914 was 109,000, the average being 47,000. In 1914 the average price for No. 1 feed barley in San Francisco per 100 pounds was $1.20, which was an average price. In 1914 the total exports from San Francisco to United Kingdom and Europe of tons of 2,000 pounds was 388,000, the average being 125,000.

MISCELLANEOUS.

A three-day district fair is to be held in Merced sometime in September.

Work on the Kings county highway will shortly commence, the money obtained from the sale of the bonds having been turned into the county treasury.

A new rate of 67½ cents per hundred pounds on canned goods in carload lots of 60,000 pounds minimum weight shipped by rail from Fresno and all other California points to points as far east as Chicago will take effect July 21.

The University of California has appointed Paul Dougherty to assist Farm Adviser Baade of Napa county in the performance of his duties, all the expenses of the assistant being paid by the University.

Foodstuffs valued at $724,000,000 were exported from the United States to foreign countries during the eleven months ending June 1. Wheat formed the biggest item in the products sent abroad.

The Turlock Merchants and Growers' corporation recently formed for the buying and selling of the crops in that district commenced operations on July 1. A call was made for 25 per cent of the subscribed $13,000 worth of stock. No sales manager has yet been appointed, the affairs of the corporation being carried on by the executive committee.

Over a year and a half ago, the War Department of the U. S. Gov. commenced a survey of the San Joaquin river to determine the feasibility of navigation as far up as Herndon. The expenses of the work have been incurred partly by the State and partly by the Federal Government. The task is about completed, and a report will be made within the next six months Should the report be favorable, construction work will be placed in the hands of the Rivers and Harbors Commission.

EXPOSITION EPITOMES.

Atwater is planning a district fair on September 18.

August 7 will be Sacramento Valley Day at the Fair.

A meeting of the executive committee of the Pacific Coast Nurserymen's Association was held last week to arrange for the annual gathering at San Francisco next month.

A profit of 61,000 has been made by the Exposition from Feb. 20 to June 13, according to a report made to the Board of Directors by the Comptroller.

The following conventions will be of interest to grape growers: International Congress of Viticulture, July 12, six days; California Viticultural Exhibit Association, July 12, two days; State Board of Viticultural Commissioners, July 12.

The Universal Corn Convention and Corn Exposition will take place at the Panama-Pacific Exposition August 5 and 6. All interested in promoting the corn industry are invited to exhibit ten ears of any variety of purebred corn.

A "movie" which is attracting a great deal of attention in the Government theater of the Palace of Liberal Arts is one which picturizes the fire which raged last year through the forest and up to the very outskirts of the town of Sisson, California; and the destructive fire which broke out a few days later in the town and destroyed numerous buildings. These two films have been joined together and present a vivid picture of a forest fire from its start from a lighted match thrown on the ground by a careless hunter, its progress through the forest, its approach to the town, and finally the destruction of the town. The good work of the U. S. Forest Service fighting force is also shown.

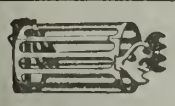


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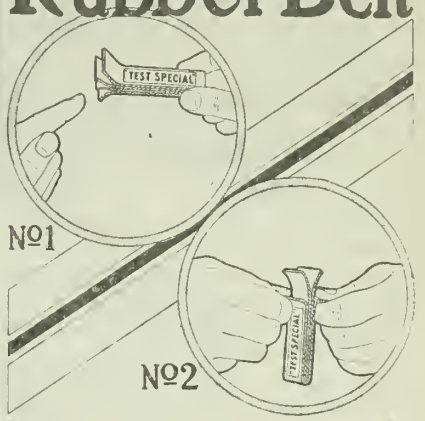
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The Standard Test for Rubber Belt



Ask your dealer to cut off two strips of belt one inch wide, one from Test Special and one from any other brand. Separate the plies with a knife as shown in Photo 1. Then endeavor to pull the plies apart as shown in Photo Number 2. If your dealer does not carry **Test Special,** secure a sample of what he has and send to us for Test Special sample.

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This time test the belt for flexibility. The grade of cotton duck used in a rubber belt is an important factor. For Power transmission the duck must be flexible, not hard or stiff.

Take the ends of two rolls of belt, one of them **TEST SPECIAL,** in your hands. Bend them back and forth. You can feel the difference.

TEST SPECIAL contains the best grade of cotton duck. The rubber which cements the plies together is pressed into every thread and fibre of the duck.

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WE WILL SOLVE YOUR PROBLEM.

We shall be glad to help you solve your transmission belt problems. Just write to us.

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THEODORE PAYNE,

345 S. MAIN STREET, LOS ANGELES, CAL.

SILAGE alone is an unsatisfactory feed because of its deficiency in nitrogen, and a steer placed on this ration is forced to draw on his stored nitrogen to meet the demands of the body for nitrogen. While the animal was eating all the silage its appetite would permit, there was every indication that it could have digested more silage if it could have consumed it. The appetite seems to act in some way as a check on the efficiency of the animal." These are conclusions drawn from a digestion experiment at the Georgia Expt. Sta. with a 14-months' Shorthorn steer.

Closing the Gap in Beef Operations.

[Written for Pacific Rural Press.]

Supplying their butcher shops with prime beef in the spring when good range cattle are scarce, has led Russ Bros. of Humboldt county to install feeding methods radically different from those in vogue elsewhere. For this purpose, the silo was first brought into play six years ago; and at present there are eight of them on their various ranches, six of which are used every year in the feeding out of 400 to 500 head of steers.

Oats, barley, peas, and volunteer grass crops are used for silage and are supplemented with three to five pounds of rolled barley daily and in some instances by alfalfa meal. Barley is deemed best in connection with silage, however, hy T. Lytle, manager of the ranch, because of its heating qualities, which are assets during the cold damp season when feeding is done.

At the main finishing plant near Beatrice, the stock is housed in large feeding sheds enclosed on all sides with lumber, the eattle not being allowed access to the corrals at all, but rather continually kept under shelter where they are fed in racks. This entirely overcomes much annoyance and promotes faster gains.

At the other plant near Ferndale, however, a different system of housing is used. In this case a large barn with open sheds on the side and outdoor corrals are used.

Twos coming three and threes coming four are principally used for finishing, the threes coming four being used when it is desirable to turn off quickly, as they put on fat while the twos coming three are most profitahle for longer feeding periods, as they put on considerable growth before fattening.

In this particular case, finishing in this manner would be practieable whether there was a spread in the market price or not as they need quality beef for their retail trade; but it is interesting to know that with the exception of last year's feeding, the spread of three to four cents per pound between the middle of November and March has heen amply sufficient to make the finishing profitable. Last winter's and spring's queer market cut down some on the profits, but still allowed a shade of profit; and being an unusual market situation, was considered entirely satisfactory.

Breeding as Well as Feeding.—It is probably unfair to give the silo all of the credit for the success of finishing on this ranch, breeding being the backbone of all such undertaking, and in this case being an outstanding feature. For 25 or 30 years, Shorthorn and Hereford bulls have been used exclusively on their ranges, a herd of 60 purebred Herefords being maintained at the home ranch, and in recent years that breed of sires has predominated on the ranges. Thus one finds the feeders more capable of putting on flesh in the feed lots than would be the case with the ordinary run of range cattle in that section.

Owning as they do many thousand acres of land, necessitates diversfication of livestock, the richer lowland and hill soils being more valuable for dairying purposes than for beef cattle. At one time the dairying on the ranch was much more extensive than at present, but ten large dairies are still being operated. Most of these are run on a percentage basis, but some few are rented to tenants.

Sheep Eradicate Tarweed.—Sheep have largely replaced the dairies on account of their ability to do well on land which has been too badly infested with weeds for the dairy cows. Several of the ranches which were formerly run as dairies and where tar weed had practically taken the soil, have been turned into sheep ranches, with the result that the tar weed has been entirely eradicated.

A comparatively small portion of the ranges has ever been seeded, rye and orchard grass sometimes being used on land recently cleared of brush. Foxtail and the natural grasses are of primary importance on the sheep ranches. Coyotes are somewhat of a menace to the sheep flocks, but are being successfully overcome by fencing.

Cotswold blood predominates in the range sheep with a sprinkling of Shropshire, but Cotswold are favored as they seem to withstand the wet winters better than either Merinos or Shropshires.

Spring Lambs.—The aim is to have lambing after the heavy winter rains in March or April, although the continual green grass makes it practicable to lamb later in the season most any time. A lamb born in March or April and run on the ranges weighs 60 to 70 pounds in August, thus showing a good profit for its owner.

A flock of purebred Cotswold ewes are maintained at the home ranch with which to supply bucks for the range.

It is seldom that one finds such a complete chain of interests as is represented by Russ Bos. They breed purebred sires for their utility flocks and herds, finish their eattle themselves for their butcher-shops where the retail price is secured. By securing producer's, middlemen's, and retailmen's profits, they surely get all there is out of their livestock and land interests.

Fifty head of two-year-old heifers were purchased by John Castro of Berkeley from Hayes & Devaney of Alameda county.

GENTLE BULLS SALABLE.

[Written for Pacific Rural Press.]

A dairyman who raises a number of purebred bulls every year, thus describes the care he takes of the herd sire.

"We clean and rub him and curry him down every morning and put on a blanket to keep off the flies. We keep him in a somewhat darkened stall through the daytime and turn him out at night into a small yard. He gets all the alfalfa hay he wants and 4 or 5 pounds a day of an equal mixture of bran, oats, and ground barley carefully mixed on a feed floor with a shovel. Corn is not fed because that tends to make a bull 'loggy'."

Such treatment makes even a bull brought in from other environment tolerably safe; and gentle treatment of growing stock on the Stanford Vina ranch made it possible for a Pacific Rural Press representative to walk around among a bunch of yearling bulls without scaring them or getting scared. This was pointed out as a great advantage in selling, because the buyer sees the bull is accustomed to handling. Rings are inserted in the noses at an early age, and after a few days in the barn to heal the wounds, the animals are led around gently by staff, learning that they must go as directed.

A carload of bulls were recently shipped to San Francisco by Siemsen Bros. of Napa county. This stock was purchased in Arizona and fattened on the ranges of Napa valley.

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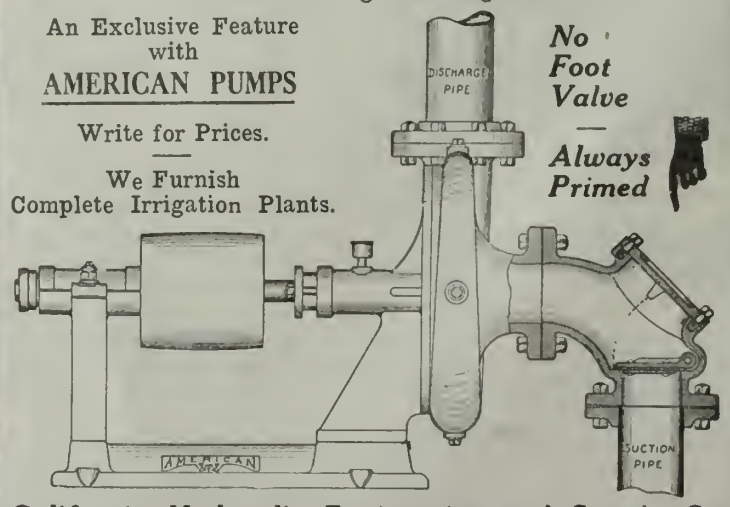
ELECTRIC APPLIANCES in the household not only add to the convenience of all members of the family, but they are economical and time-savers. ELECTRIC APPLIANCES include CHAFING DISHES, COFFEE PERCOLATORS, VACUUM CLEANERS, ELECTRIC IRONS and every other appliance that is needed in the modern home, not forgetting ELECTRIC FANS.

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National Dairy Union Conference.

The directors of the National Dairy Union, and others interested in the development of the dairy industry in this country, met in Washington, D. C., the early part of June for the purpose of outlining some definite action relative to dairy legislation in the next Congress. The main object of the conference was to perfect the oleomargarine legislation that has been before Congress for several sessions.

A conference was held with the Internal Revenue Commissioner to consider the question of the rate of taxation which the bill should specify for oleomargarine. No definite decision was reached, but sentiment appeared to favor a one cent per pound tax.

After this conference the delegates met at the Bureau of Standards to see a demonstration of a device for measuring color, by the use of which it is planned to adopt a standard color for oleo. It developed that the previously suggested color standard, expressed in terms of percentage of white, would not be satisfactory, since by juggling colors the legal percentage of white could be complied with and the product still show a relatively high yellow color.

By the newly adopted basis of measuring color, which is expressed in terms of the ratio between the reflecting power of blue and yellow, the degree of yellow coloration can be controlled.

The main features of the new bill which were decided upon are as follows:

(1) The adoption of color standard for oleo, and the prohibition of its manufacture or sale under any conditions when the degree of yellow coloration is greater than that prescribed.

(2) The limiting of the amount of butter fat that may be incorporated in oleomargarine to 5 per cent.

(3) The adoption of a uniform tax rate for all oleomargarine.

The other features of the bill were left in the same shape as the National Dairy Union had prepared in a measure introduced in Congress nearly two years ago, known as the Haugen Bill.

The two plans of taxing oleomargarine (10 cents for colored and ¼ of a cent a pound for uncolored) has been the cause of much fraud practiced upon the Government, and has been used to create a false impression that all oleo was paying 10 cents a pound tax, when the great bulk of it is only paying ¼ of a cent tax. By prohibiting the coloring of oleomargarine, and a straight tax, the greater part of the deception and fraud will be stopped.

The Pennsylvania law, which prohibits the sale of margarine in imitation of yellow butter, proves the contention of the dairymen that uncolored oleomargarine sells for less money and is of a better grade than when colored, and does in no wise interfere with oleo honestly manufactured and sold for what it is.

A resolution was passed by the conference thanking the Internal Revenue Commissioner for his work in enforcing the present law.

It is generally conceded that the time has arrived for oleo to be sold for what it is, and at the same time giving consumers a substitute for butter at a reasonable price, instead of paying excessive prices as has been the case too often in the past.

The probabilities are that oleo manufacturers who are anxious to sell their product on its merits at a reasonable profit will not oppose this measure.

Other matters discussed were the correct labeling of imitation evaporated milk products.

A WELL PLANNED PIGGERY.

[Written for Pacific Rural Press by Frank H. Wilson, Turlock.]

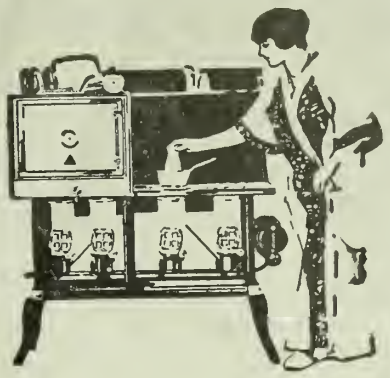
You may be interested in knowing how the hog pens and pastures are arranged at the Allison Ranch in Stanislaus county, where we are raising purebred Berkshire swine.

The whole piggery comprises about 18 acres. The farrowing pens are 100x150 feet and each contains a wallow of concrete, 6 feet square and 5 inches deep. It is covered by a shed which affords shade. A small trough built in at one side of the wallow contains fresh water from the dripping faucet. The water trough has bars across it so that the hog cannot lay down in it. The water spills over into the wallow. Every week the water is drained from the wallow through a pipe. A small permanent farrowing shed is located in each corner of the pen.

After the pigs are six or seven weeks old, they are turned, with their mother, into the weaning pasture where they soon learn to eat alfalfa and forage for themselves. The ration of one quart of crushed barley or Egyptian corn to one gallon of milk, more or less depending on the size of the litter, is gradually cut down until the sow and pigs are getting skim milk only. Then they are turned into the alfalfa pasture. It is arranged so that the pigs can get into the weanling pen through a small door. This door slides up and down and can be regulated to allow the weanlings into the pen. Here they are fed skim milk and barley or corn (we raise Egyptian corn mostly) until they are large enough to be fed without milk. This is given to all hogs in the pasture once a day.

As there are no trees in the alfalfa pasture, a large shed is built on the line fence and furnishes the required cool spot. The overflow from the artesian well runs through both pastures so fresh water is plentiful.

A long lane 2 feet wide leads to the dip tank. It has gates at 20 foot intervals. The hogs are called and led into this long lane, fed a little grain, and then those in each section are dipped one by one in the tank, which is 20 inches wide, 3 feet deep, and 10 feet long. With such tame hogs, one can dip a good many per hour.



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Deep Well Pumps, Windmill Pumps, Etc.

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Pure Bred and Registered
Polled Angus
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from the most fashionable families including Queen mothers, Heroines, Blackbirds, Prince Ito's, Ericas and Prides. I purchase individuals nearly every year at the International at Chicago. I can refer by permission to Prof. Gordon H. True of the University of California.

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Bishop, Inyo Co., Calif.

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1000,000 ft. 1½-in. water pipe, only 5½c per ft.
15,000 ft. 3-in. casing, only 13½c per ft.
10,000 ft. 3¼-in. casing, only 14c per ft.
12,000 ft. 3½-in. casing, only 15c per ft.
10,000 ft. stove pipe well casing, from 12-in. to 20-in. made from No. 10 gauge iron.

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We surely advise you to place your order at once. Special attention given to mail orders.

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200,000 FEET CHEAP

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WATER PIPE

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Phones Bdwy 1264—F1917
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With the Live Stock Men.

DAIRYING.

Dairies in Kings county have been found in very good condition by J. V. Canham, inspector of the State Dairy Bureau, who recently made a tour of inspection through the county.

A tract of 840 acres which will be developed into a model dairy farm was recently sold by the Oak Land & Water Co. of Tulare county to a bunch of southern California capitalists.

The Clarksburg Cow Testing Association, formed after the dissolution of the Woodland Cow Testing Association, is reported to be showing marked progress, 1100 cows being registered and under monthly test.

On account of lack of sufficient cream, the creamery recently established at Stonyford, Colusa county, has closed down. The farmers will ship their product to outside creameries until business picks up again.

A model dairy is to be installed at the Lemoore High School in connection with its agricultural department. Several cows will be secured and the students will be afforded the opportunity to study dairying under the most favorable conditions.

Nearly three million pounds of butter annually has been in the past imported to California from Australia and New Zealand; but the tables have been turned, for during the last three months California has shipped more than 1,000,000 pounds to the Antipodes.

On account of the growth of the dairy industry in Churchill valley, Nev., it has been found necessary to add new machinery and thus increase the capacity of the Churchill Creamery. Hereafter all butter manufactured at the creamery will be pasteurized.

Chas. Klint, official tester for the Gridley Cow Testing Association, reports that the best average production for herds of twenty cows was secured by John Guill, Jr., of Chico. His 24 cows averaged 981 pounds of milk and 34.1 pounds of butter fat each for the month.

Hereafter dairymen of Brown's Valley, Yuba county, will not have to haul their product a long distance to market or make their own butter, if the plan of Ruel Hendricks of that place is successful. It is his intention to establish a creamery with a capacity to handle the product of many cows.

One must advance with the times. We read the other day of a woman who in suing her husband for divorce charged him with cruelty because he forced her to help him milk his large herd of dairy cows. In his answer, he sadly reminded her of how in the halcyon days of love's young dream she had found such tasks a pleasure; in fact, the picture of her in gingham apron and sunbonnet, carrying milk pail and stool had first touched his manly heart. Why not buy a milking machine and let the hearth-fire still continue to burn?

From Malcolm H. Gardner, Supt. of Advanced Registry of the Holstein-Friesian Association comes the following announcement of breeders who have made official records up to April 30, the cows, and their records: A. W. Morris & Sons, Woodland; Full aged class, Pasma Burke 137644, 30 day test, milk 2436.8 pounds, butter 90.265 pounds; Charlotte Walker 2nd 139968, 30 days test, milk 2405.5, butter 82.990; Ignaro Creamcup 102569, seven day test, milk 500.7, butter 19.044; Josephine De Kol of Cedarside 140714, seven day test, milk 396.2, butter 18.892; in the junior four-year class, Lady Mead Salambo 183463, eight day test, milk, 502.3, butter 22.048; in the senior three-year class, Leda Gerben Alcartra 2d 170500, eight day test, milk 524.8, butter 22.765; Creamcup Contenta Pontiac 161994, six day test, milk 444.1, butter 19.517; in the senior two year class, Queen Pontiac Charlotte 197488, 30 day test, milk 1587.0, butter 61.888; in the junior two-year class, Leda Gerben Korndyke 199667, 30 day test, milk 1955.2, butter 63.754; Miss Luit Walker Burke 203266, 30 day test, milk 1627.5, butter 10.626; Margaret Terpstra Korndyke 197490, seven day test, milk 324.2, butter 8.548; Nutula Korndyke Fobes 206566, seven day test, milk 250.5, butter 8.318; semi-official yearly records, full aged cows, Arcula Alcartra 94912, yearly record milk 22675.2, butter 746.79; Nydia Creamcup 111907, yearly record, milk 21504.3, butter 741.08; Leda Hartog Tiettie Alcartra 112299, yearly record, milk 19778.4, butter 676.44; Aaggie Spring Brook Floa 104349, yearly record, milk 19439.4, butter 658.55; Wilhelmina Gerben De Kol 103374, yearly record, milk 17469.5, butter 633.26; We-no Alcartra 112292, yearly record, milk 19311.8, butter 622.84; Electa Ignaro 66558, yearly record, milk 19,155.0, butter 604.32; Leda Hengerveld De Kol 4th 123457, yearly record, milk 16373.9, butter 586.47; Mary King of Riverside 93943, yearly record, milk 14971.7, butter 581.78; senior four-year class, De Kol of Valley Mead 2d 127017, yearly record, milk 20326.4, butter 809.37; Miss Dutch 140723, yearly record, milk 16958.2, butter 602.60; junior four-year class, De Kol of Valley Mead 3d 163012, yearly record, milk 14574.9, butter 532.91; senior three-year class, Leda Josephine Korndyke De Kol 170252, yearly record, milk 14553.5, butter 524.43; junior three-year class, Creamcup Ruby Pontiac Burke 158127, yearly record, milk 16456.5, butter 594.94; Miss Sandes Burke 143868, yearly record, milk 16010.3, butter 490.61; Glista Flossie 149450, yearly record, milk 11501.0, butter 447.74; Astrea Johanna Pontiac 157931, yearly record, milk 11692.6, butter 399.57; senior two-year class, Aralia De Kol Mead 182592, yearly record, milk 16669.3, butter 696.49; Riverside Seely Girl 2d 182597, yearly record, milk 14115.8, butter 600.88; Creamcup Contenta Pontiac 161994, yearly record, milk 15722.6, butter 525.22; Aralia Mead De Kol 182593, yearly record, milk 11742.9, butter 515.54; Leda Korndyke De Kol 170498, yearly record, milk 14876.3, butter 500.85; Leda Gerben Alcartra 2d 170500, yearly record 15716.6, butter 496.88; Aaggie Netherland Juliana 182591, yearly record, milk 15475.9, butter 486.89; Helen Nye Skylark 184611, yearly record, milk 11757.1, butter 456.53; junior two-year class, Molly De Kol

LIVESTOCK DIRECTORY.

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DAIRY CATTLE.

REG. HOLSTEINS—We offer choice graadsons of King Segis, also gandsons of the world's record cow. Creamelle Vale; hlood that increases the value of your berd. Write or call and see our herd. F. H. Steazel, San Lorenzo, Cal.

$150 HOLSTEIN BULL—Soa of Romeo Colaotha of Riverside. Fine big-boned producing hull. White with few black spots. Address Box 237, Marysville, Cal.

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FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

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THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class, thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

JOHN LYNCH, breeder of Registered Shorthorns. Milk strain choice. Young stock for sale. Box 321, Petaluma, Cal.

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REGISTERED HOLSTEINS—A. W. MORRIS & SONS, Corp., Importers aad Breeders, Woodland, Cal.

REGISTERED HOLSTEIN BULLS from A. R. O. dams. J. W. Benoit, R. 2, Modesto, Cal.

CREAM CUP HERD—Registered Holsteins. Pontiac bull calves. M. Holdridge, Modesto, Cal.

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SUNNYSIDE HERD—Registered Holstein cattle. R. F. Gueria, R. 3, Box 58, Visalia, Cal.

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HOGS—Forty bead of Big Type Polaad-China boars of any age. Sired by Iowa Wonder, who is a son of A. Wonder, the greatest hog living or dead. No females to sell at present. On account of the large number on band will make special prices. Geo. A. Smith, Corcoran, Cal.

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BLATCHFORD'S PIG MEAL weans easily and safely; no trouble; no milk. Write for free folder, "The Safety Route from Pighood to Porkage." Coulson Co., Petaluma.

BILLIKEN HERD of pedigreed O. I. C. Swine; weaned pigs of both sexes ready for immediate shipment. Pairs and trios mated, aot akin. All from big type stock of extra heavy bone. Immuaized against hog cholera, crated and registered free. Write for descriptive circular and price list. C. B. Cuaaingham, Mills, Sacramento County, California.

BLUE-RIBBON HERD DUROC-JERSEY HOGS—Bred Gilts a specialty. 15 hred aow, 20 ready to breed Sires and dams win all blue ribboas 1912, 1914 Sires and dams wia all blue ribbons 1912, 1913, 1914 State fairs. 15 first, 13 seconds, 6 thirds, 7 fourths 1 fifth. Will show 1915. For prices, write John P. Daggs, Modesto, Cal.

REGISTERED POLAND-CHINAS—Prizewinning Nebraska stock. Large type. Youag pigs for sale. Absolutely guaranteed. Hale I. Marsh, R. 4, Modesto, Cal

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REGISTERED BERKSHIRES — Weanling boar pigs, $10.00 each. A few older boars. J. M. Bomberger, Modesto, Calif.

REGISTERED BERKSHIRE SWINE—All ages, for sale. Grapewild Farm, Mathews, Sacramento, Cal. A B. Humphrey, Prop., P. O. Box P.

25 POLAND CHINA SPRING BOARS—Jaa., Feb., Marcb farrow. Prices, registered and crated, $20, $15, $10. Edwd. A. Hall, Watsoaville, Calif.

DEL DAYO FARM—(Old Haggin Bottom Ranch)—Breeders of Registered Berksbires, both sexes for sale. P. O. Box 1140, Sacramento, Cal.

GLENVIEW POLAND-CHINAS—Baby pigs from best families for sale. From $15 up. Chas. R. Hanna, R. 3, Riverside, Cal.

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BLACK ESSEX PIGS—Only herd oa the coast. Limited aumber weanlings, either sex. L. W. Millsap, Yolo, Cal.

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POLAND-CHINAS—Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

POLAND-CHINAS — Prize-winners. Satisfaction or money back. Geo. V. Beckman, Lodi, Cal.

REGISTERED DUROC-JERSEY SWINE—Las Pederas Raach, El Cajon, Cal. M. S. Allen, Manager.

REGISTERED POLAND-CHINAS — Young stock for sale. Hewitt & Hewitt, Hardwick, Cal.

DUROCS—Weanlings and a few choice bred gilts H. E. Boudier & Son, Napa, Cal.

REGISTERED POLAND-CHINAS aad Duroc Jerseys T. H. Beckman, Lodi, Cal.

KNOB HILL STOCK FARM—Registered Poland-China swine. A. M. Heary, Farmington.

READAKS RANCH herd of registered Poland Chinas W. J. Hanna, Gilroy.

REGISTERED BERKSHIRES—Young stock for sale F. W. White, Elk Grove, CaL

BERKSHIRE BOAR PIGS—Butte City Raach, Butte City, Glenn Co., Cal.

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POLAND CHINA HOGS—Registered. B. J. Miller, Llewellyn Ranch, Latbrop.

DUROCS—A few bred gilts, boars and gilts left. E. C Curtis, Napa.

REGISTERED O. I. C. SWINE—C. D. CONWAY, Lakeport, Cal.

POLAND-CHINA HOGS—C. A. Stowe, Stockton, Cal

SHEEP.

12 REGISTERED SHROPSHIRE RAMS for sale, sired by Clover Hills' Crested Wave A. T. (011580K) 300968 Age 2 to 4 years. Ranch 4 miles north of town. Harry L. Huston, R. 2, Box 23a, Winters, Cal.

FRANK MEACHAM, Petaluma, California.—Breeder Shropshire, Ramhouillets, Americaa Merinos, both sexes. Take electric car at Santa Rosa or Petaluma for Live Oak.

WANTED—A good Lincoln lamb ram. Would like to hear from Northern California breeders. James T Peterson, Lassen, Lassen Co., Cal.

YEARLING SHROPSHIRE BUCKS for sale, single or carload lots. J. B. Bloom, Dixon, Cal.

BULLARD CO.—Breeders and Importers of Rambouillets. Hanford, Cal.

CHAS. KIMBLE, Breeder and Importer of Rambouillets, Hanford, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and importers, Shropshires.

MISCELLANEOUS.

OWING TO THE MANY requests of our customers to give them information as to where they can buy or sell dairy stock, we have established a livestock bureau in connection with our office. For anything in this line write us. V. A. Peterson Alfalfa Seed Co., Arbuckle, Cal.

Mead 184614, yearly record, milk 16454.5, butter 546.54; Laura Netherland Skylark 184612, yearly record, milk 12657.4, butter 471.94; Lady Segis Douwe 184618, yearly record, milk 14176.4, butter 439.63; Jane Korndyke of Riverside 2d 195414, yearly record, milk 12696.6, butter 431.32; Jane Netherland Segis 195415, yearly record, milk 12781.4, butter 429.38; Lady Aralia Salambo 184617, yearly record, milk 11570.7, butter 529.02. The Whittier State School, Whittier; Full Aged Class, White Bess Clothilde De Vries 85947, 30 day test, milk 2223.5, butter 71.078; F. Stenzel, San Lorenzo, in the junior four-year class, Pauline Inka De Kol Kate 151749, eight day test, milk 485.6, butter 16.371.

CATTLE AND SHEEP.

Five yearling bucks weighing 800 pounds were recently shipped by J. R. Bloom of Dixon to a ranch in the Montezuma hills.

A thousand head of sheep were recently purchased by J. B. Agee of Napa from J. Z. Morrison and Jack Berry. These animals will be turned loose on the owner's tule land at the Balfour-Guthrie ranch near Soscol.

Jas. Gallagher, Jr., of Livermore, recently purchased 1300 breeding ewes from Louis Bordnave of Stockton. These will be pastured in San Joaquin county for the fall and summer.

All the sheep which have been in the Livermore mountains have been taken and put on pasture in the valley or the river bottoms of the Delta section. On account of abundant feed, the animals remained in the mountains one to two months longer this year than any season for the past twenty.

MISCELLANEOUS.

At the meeting of the Suisun Farm Bureau Unit on June 15, plans were started for the organization of a swine breeders' association and a fall colt show.

Armour & Company of Chicago, who were recently indicted by the Federal Grand Jury for violating the pure food law by the shipment of decomposed eggs, entered a plea of "not guilty."

An auction sale of cattle was recently held on the Clarence Topham ranch near Tulare. One cow brought $137.50, and the average selling price for a large herd was $73. Horses and young stock also brought good prices.

At the International Live Stock Exposition this year will be displayed the greatest fat stock and horse show that has ever been staged. A more novel display of animals will be made than has ever been made at the International, according to word received from Chicago.

Receipts at the Portland Union Stock Yards for the week ending June 29 were: Cattle, 1120; Hogs, 3660; and Sheep, 1887. The bulk of the steers went at $6.75 to $7.00; cows $6.00 to $6.25; and heifers, $6.00 to $6.50. The hog market was strong, the bulk going at $7.70 to $7.75, tops at $7.80. There was no change in the sheep market.

From Chicago comes the statement that a shortage of meat is inevitable, an advance of $1.00 and $1.50 per cwt. in fat cattle values since the low point of the year being conclusive evidence. Hogs are plentiful, but the production of mutton has been reduced in the last five years to such small proportions in the United States that a continuance of high prices is logical.

The National Dairy Show this year will consist of free demonstration work in feeds and feeding and handling for the benefit of those dairymen who are interested in the production of milk, cream, butter, and cheese without relation to the pure-bred side of the game. The show will be conducted along these lines on account of the delay over quarantine and also on account of the dairy and machinery show at the Exposition.

HORSES AND SWINE.

A carload of hogs was recently shipped to Los Angeles by the C. D. Campbell company of Tulare.

Scott S. Southworth of Napa reports the sale of ten Duroc-Jersey gilts and four boars to various parties in the State.

An imported Percheron stallion, Koloh 92334, was recently purchased by Max Berlin, John Meyn, and Otto Schultz of Livermore from the Dunham-McLaughlin Company of Oakland.

One hundred and fifty mules were recently purchased in Butte, Colusa, and Glenn counties by a government agent to be shipped to the Philippine Islands for use in the pack service there.

Two hundred horses were recently shipped from Yolo county to St. Louis, the assembling place for horses which are being bought all over the middle west and Coast regions, whence they will be shipped to England.

A demonstration and lecture on hog cholera was recently held by Dr. Bert Cady of the U. S. Dept. Agr. on the ranch of R. Renshaw, near Atwater. It was attended by many hog raisers of the vicinity who are working for the suppression of the disease.

The champion sow of the 1914 State Fair belonging to Wm. Bernstein of Hanford, recently farrowed a dozen pigs, sired by "Kings Wonder," also a State Fair champion. These pigs, together with their dam and sire, and several other animals, will be exhibited by Mr. Bernstein at the Exposition, the judging of which will take place Nov. 3 to 16.

CALIFORNIA QUARANTINE LIFTED.

A proclamation just issued by Governor Johnson lifts the foot and mouth disease on a number of States from which shipments have been prohibited for some time. All classes of livestock may now be admitted from Arizona, Colorado, Idaho, Nevada, Nebraska, North Dakota, New Mexico, Oregon, South Dakota, Utah, Washington and Wyoming, provided said livestock is accompanied by a certificate of inspection from a duly authorized Federal or State veterinarian. Dairy cows and bulls shipped in from the above States must also be accompanied by a satisfactory tuberculin test. When stock shipped from the above States is for immediate slaughter inspection is unnecessary. On permission from the State Veterinarian livestock may be brought into the State from Delaware, Iowa, Indiana, Kansas, Michigan, Minnesota, Missouri, Montana or Tennessee. Shipments from Arkansas, Alabama, Florida, Georgia, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, Texas and Mexico of all livestock except cattle may be brought into the State if accompanied by a veterinarian's certificate of inspection. Cattle may be brought in from the above States when accompanied by a permit from the State Veterinarian. All cattle, sheep, swine or other ruminants from other States are prohibited at this time. Horses, mules and asses may be brought in from any State if accompanied by a permit from the State Veterinarian. Poultry may be brought in from any State.

BEET PULP AND HIGH PRICES.

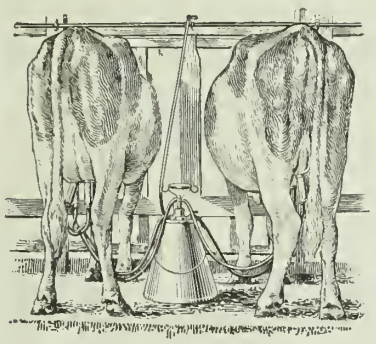
With the price of bran and other mill feeds soaring nearly out of sight and the price becoming almost prohibitive, more and more dairymen are looking to dried beet pulp as a solution of their feed problem. Of course this feed has been well known and used by dairymen all over the country for some time, but many of those who have been using bran and other mill feeds have hesitated about making the change. The price of dried beet pulp has not been advanced and holds practically the same as it did before the war.

Dried beet pulp is simply the pure shredded root of the sugar beet with only the sugar and water extracted and can be had either plain or with molasses. When moistened it swells to six times its original bulk, thus furnishing as great or greater succulence than silage, and more than five times as much nutriment. It makes a splendid combination with alfalfa as it contains an abundance of carbohydrates and is not only valuable for feeding to dairy cows, but also for hogs, horses, poultry, sheep, etc.

Some San Francisco men have just purchased 500 acres in San Benito county from Mrs. Isabelle Bourcell of San Francisco. The land has both orchard and dairy possibilities, but the new owners are doubtful as to whether they will develop these possibilities themselves or subdivide the land and put it on the market in small tracts.

FOR SALE
SHORTHORN AND HEREFORD BULLS
At the Pioneer Ranch, Sierraville.
40 Head of Pure-bred Hereford and Shorthorn Bulls, from 14 to 15 months old.. All in prime condition.. Inquire of the
A. S. NICHOLS COMPANY,
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Milk 30 to 40 Cows per Hour



WITH THE
Empire Mechanical Milker
ONE MAN OPERATES IT.
Simple, easy to install and operate. You gain two hours a day with this machine.
Write today for Catalogue P, telling about Empire Milkers.
We carry a stock at San Francisco and Los Angeles, and have a direct representative in your section.
Empire Cream Separator Co.
26 FRONT STREET, - - PORTLAND, OREGON.
Empire Cream Separator, new, up-to-date types, skim clean, run easy. Write for catalog. $25.00 and up.

San Ramon Shropshires
Our flock headers are:
Cavendish 273.
Cavendish 272
Cavendish 246
Our 1914 Winnings:
All Firsts and Championships at Sacramento State Fair, Fresno Fair, Hanford Fair and Pleasanton Fair.
PUREBRED REGISTERED RAMS AND EWES.
INDIVIDUALS OR CARLOAD LOTS.
BISHOP BROS., Agents.
Frand Rutherford, Supt.
Ted Ballard, Shepard.
SAN RAMON,
Contra Costa Co.,
California.

When Grain is High **Feed DIGESTER TANKAGE**
Whether intended for show or market, the hog attains perfect condition and more quickly and economically if his ration includes some DIGESTER TANKAGE. The growing pig needs DIGESTER TANKAGE as a bone and muscle builder. Write for free pamphlet on hog-feeding. WESTERN MEAT COMPANY,
Animal Food Dept., 704 Townsend St., San Francisco, Cal.

Short Horn Bulls
7 Choice Registered Tuberculin-tested Short Horn Bulls, aged 14 to 20 months. If interested, write or call immediately.
H. L. MURPHY, PERKINS, CALIF.

Quarantine or Cholera Serum.

To the Editor: The writer has been pained to observe the extreme negligence practiced by some farmers in regard to that most dreaded plague, hog cholera. Many farmers in this country are of foreign birth and speak and understand our language with difficulty, perhaps cannot read it at all, so this negligence may he partly due to pardonable ignorance. On the other hand, means of imparting information on such vital topics are so numerous, and so accessible to all, that surely a large part of this negligence is due to unpardonable ignorance, or willful disregard of the rights of others. It is the practice among these people to turn sick hogs loose. Where fences are not hog tight the animals are sure to visit the neighboring ranch, with great danger of carrying infection. When the hogs eventually die, even if the cause has been proved to be cholera, the owners bury the bodies a few feet below the surface of the earth without the use of quicklime. The disease breaks out periodically on these ranches. The owners themselves have no sooner buried their dead hogs than they are off to their neighbors' yards to replenish their stock. Very few men have the moral courage to forbid a neighhor to step on their ranches, so another yard of hogs is soon afflicted, and thus the disease spreads. These careless people maintain that hog cholera just comes—carried by the air persaps—that it cannot be prevented.

Since this state of affairs exists, is it not possible to enforce greater precautions in those cases where carelessness has prevailed? Why should not a ranch where hog cholera is known to be present he quarantined by a county veterinarian just as a house is quarantined for smallpox? Could the owners not then be compelled to keep off his neighbors' premises until the quarantine was lifted? Could the veterinarian in charge not be empowered to supervise the disposal of the dead bodies and disinfection of the premlses before the quarantine was lifted? Until something like this is done there will always be enough careless and indifferent farmers in the State to keep hog cholera in a flourishing condition.—P. Q. R., California.

In this connection, Dr. Wintringham writes us as follows:

"Legislation looking toward the control of cholera has been discussed, hut no actual steps have heen taken in this State for its control. Premises once infected may be considered always infected. Under our present laws a veterinarian is compelled to report to the State Veterlnarian every outbreak of cholera which comes to his attention. On investigation the State Veterinarlan has then the power to establish such quarantine as he deems necessary.

"When farmers come to realize that in hog cholera serum they have an absolute preventative of cholera, they will use it constantly, as it is the best and only insurance we have for cholera. Dr. Marquis of the State University is now producing serum equal or better than any in the country. In proper hands the use of serum will absolutely prevent outbreaks of cholera."

ALFALFA AND MOLASSES IN RATIONS FOR YOUNG PIGS.

To the Editor: Can a good growing ratlon for young plgs be prepared from whole barley (soaked), alfalfa hay, and stock molasses? My idea is to feed the molasses wlth water. If not, what is lacking to complete an efficient ratlon?—B. L. B., Modesto, Cal.

[Answered by F. W. Woll, University Farm, Davis, Cal.]

[Alfalfa hay, barley, and molasses will make a very good and palatable ration for young pigs; the best method of feeding will be to soak the whole barley in water and mix finely-chopped or ground alfalfa and molasses with it. If a good quality of alfalfa hay is available,' the feed may be mixed as follows: Three parts barley, one part each of alfalfa and molasses, by weight, giving as much of this in a slop of water as the pigs will clean up readily. The slop should be made thicker as the pigs grow older, and more water may, if necessary, be given as a drink. The proportion of alfalfa in the mixture may be increased as the pigs grow older until it makes up about one-fourth by weight, and the cost of the ration thus decreased to some extent.]

CATTLE EAT SALTY FORAGE.

[Written for Pacific Rural Press.]

Two crops of fodder per year, which the stock eat up clean, are grown by a settler on the Natomas Consolidated project in Sacramento county. He grows purebred Duroc hogs and Shetland ponies, and claims that his oat hay cut early in May yields 3½ tons per acre. Immediately after it is cut, corn is planted; and if this doesn't mature, it is cut as fodder when the kernels have dented. The ears are taken off and the stalks stacked in the yard with a large amount of salt which induces the stock to eat it more completely than otherwise. His neighbor, Mr. Jensen, salts his threshed wheat straw, which the cattle eat clean.

"An ounce of salt a day in the rations is all right for cows," says G. L. Stearns, formerly of the Vina Ranch. This is probably not enough, so there ought to be some stock salt in the yards for cows to eat at pleasure. Sometlmes in feeding cows for official test, as much as 3 ounces per day is mixed in the feed. This makes the cows thirsty and they drink more water and produce more milk. But it is necessary to be very careful in feeding salt in the rations, for it is apt to give them the scours and is also likely to cloy their appetite so that they will not eat enough to make a record yield of milk.

The amount put into hay in stacking it depends on the amount of hay each animal is expected to eat. Twenty pounds per ton in general may be all right if the stock has plenty of other food. But a cow which has nothing but hay will eat 5 tons per year if she weighs about 1200 pounds, according to Mr. Stearns. At the rate of 20 pounds per ton, this would force the cow to eat a trifle over 4 ounces per day. which is altogether too much.

When it seems that there is danger of too much salt in the feed, a satisfactory test may he made by offerlng salt separately; and if the cow doesn't eat it, less of the salty feed may be given until she will.



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Prolificacy in Dairy Breeds.

Several articles have appeared recently in the agricultural press giving data regarding the yearly registration by different breed associations, and drawing certain inferences therefrom. Many of these have spoken in such disparaging terms of the Guernsey breed that we thought it well to study the situation and see if an improper interpretation of the data had not been made and to try and correct any unjust impression which might have evolved.

Ten years ago the yearly increase of the registrations for the Ayrshire, Guernsey, Holstein and Jersey breeds averaged 7.66 per cent, the Guernsey breed averaging 9.3 per cent. Last year the average percentage increase of the four breeds was 12.46 per cent, the Guernsey breed averaging 14.00 per cent.

The percentage of increase in every breed of dairy cattle has increased greatly in the past ten years, as the increase in the average shows. Graphic plottings of this data show the rate of increase to have similar trends for each breed association. There are certain years, namely from 1909 to 1912, when the average increase in each breed is greater than at any other time during the ten years period. The reason for this we are unable to state, but the fact that each association experienced a great increase would tend to show that it was due to some external cause rather than any special increase in prolificacy during that period. Every breed but the Jerseys have suffered a decrease in percentage of registrations during various years in this period. We are not in a position to explain these decreases in the case of other breed associations, but for the Guernsey breed, we believe some explanation will help in a clear understanding of the matter.

In the year 1909, we find the percentage of increase to be 10.5 per cent, and in 1910, it jumped to 17.8 per cent. This was due to the fact that a rule was passed by the American Guernsey Cattle Club, requiring a ten-dollar fee for the registration of all animals over six months of age. This, of course, brought in a large number of applications during that year for cattle which had run over the six months' limit and explains adequately, we believe, the abnormal increase in 1910. In 1911, the percentage of increase dropped again to a normal figure of 11.0 per cent, which was, however, a substantial gain over 1909.

Following 1911, the percentage of increase gained rapidly, more rapidly than any other breed association until 1914. This was influenced somewhat, doubtless, by the number of importations made in those years which averaged between 700 and 800 per year. To counteract this, however, we have to consider the fact that the American Guernsey Cattle Club had established, during this period, a system of birth reports, whereby a breeder, on reporting the birth of an animal and filing a sketch of same with the Cattle Club office within thirty days after the animal's birth, could register it any time within three years for the regular fee. In justice to these figures and in connection with the importations, it must be said that there are nearly 5,000 of these birth reports on file at the office, which do not enter into the percentage upon which this study was based. Dividing this up over a three-year period, we find that they will more than offset any increase in percentage of registrations made recently by importations, and is a legitimate consideration in the question of prolificacy. This will bring the percentage of increase during the past year as high as any of the dairy breeds considered in this study. During the past year, each association but the Jersey has experienced a decrease in percentage of increase in their registrations, and the reason for this has been assigned by the secretaries of the various associations to the foot and mouth trouble. Complete reports for the past year could not be obtained for the Ayrshire breed, but for the others this depression seems to have been felt only in a slight degree by the Jersey breed, a little more so by the Guernsey breed and still more by the Holstein breed.

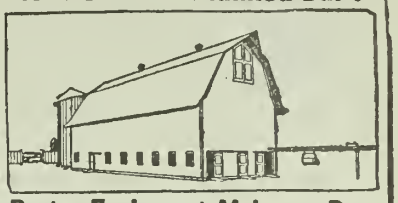
In the number of cattle registered, the Guernsey breed is at the same period of development that two of her sister breeds were over ten years ago. Ten years ago the highest percentage of increase registered by any association was 10.3 per cent, while at the present time, the Guernsey figure is 14.0 per cent, and if birth reports were figured into this calculation, and importations figured out, the increase would reach 16 per cent or practically as high as any breed in registering today.

Guernsey breeders are not worried about their herds becoming smaller from year to year, due to the lack of a proper increase, and are not discouraged by such articles as have appeared in the press speaking unfavorably of the breed in regard to this point, but men who are thinking of entering the dairy business and trying to learn all they can about the different breeds before choosing one as their favorite are sometimes guided in their choice by such articles, and we offer the above as figures and facts to guide the inquirer regarding the Guernsey breed of cattle as to what is the true condition within this breed and its comparison with other breeds of cattle. So far as we can determine from a study of statistics, there is more assurance that the average Guernsey herd will double in a given number of years than there is for some of the other breeds, and just as much assurance as any breed can give.—A. G. C. C.

Word has just been received from the Secretary's office of the Ayrshire Breeders' Association to the effect that Henderson's Dairy Gem 35175 bred by Hill Top Farm, Wheeling, W. Va., owned by Henderson's Dairy Farm, Hudson, O., has completed her year's test for advanced registry with the official record as a senior two year old of 17974 pounds of milk, 738.32 pounds of fat, 4.11 per cent fat, making her the senior Ayrshire two year old Champion of the world.

A half million pounds of California butter will leave San Francisco on July 10, on the steamer Ventura, bound for the Antipodes.

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PETALUMA poultry district, the most densely hen-populated section in the world, seems to have only recently realized the great benefit to be gained by making a combined exhibit of Fancy and Utility poultry at the Exposition, Nov. 18 to 28. If the plans under consideration are carried out, a view of the display from this district alone will be worth a long journey.

Hatch Chicks This Fall.

[Written for Pacific Rural Press by Geo. H. Croley, President Federated Poultry Ass'n. of California.]

Our articles advocating fall hatching of chicks have created a great deal of interest among poultry keepers in various parts of the State and a number have responded to our request for reports or suggestions.

Simon Hansen writes a short bit of instructive history as follows: "Your letters in the Pacific Rural Press pertaining to fall hatching of chicks have been very entertaining, particularly since I am a mining man and was acquainted with Mr. Mast mentioned in one of the series of letters. While I have never hatched chicks in the late fall, I have raised some that were hatched in July or August; these chicks, after the age of four months, were raised under the snow on the Sierra Nevada Mountains about fifteen miles from Grass Valley, Nevada county; and what may also appear impossible, the pullets were laying before the snow disappeared in the spring. However, persons who have had experience with the conditions in that section of deep snows will not be surprised. In that neighborhood, the snow is frequently from ten to thirty feet deep, depending on the weather and conditions favorable for drifting.

"We had an arbor reaching from the cabin to the barn and when the snow began to gather each year, we covered this arbor with panels, thus converting it into a tunnel which was the passageway from cabin to barn. During the winter that I refer to, the barn was used only to store fuel and such bulky things that could not be kept in the cabin, and the chickens. A large skylight furnished light and more or less sunshine. During or after a storm or snow fall, it was necessary to clear the snow off this light. When the snow became deep enough and the accumulation on the light became heavy, it was necessary to 'snow shoe it' as near as possible and work the snow off from the outside. Those chickens were as happy and contented in their winter quarters as any flock I have seen anywhere.

"Perhaps some of your readers may have known a noted poultry breeder, a James Quick of Badger Hill, who also wintered his fowls in a similar manner. His place was only a few miles from the location at which I had my fowls. I remember that some fifteen or twenty years ago he showed me the fowls he had selected to send to a poultry show somewhere on the Coast. This must have been in the early part of the winter, probably December. One of the fowls was a young Brahma rooster less than a year old and the largest I ever saw; I distinctly remember that he afterward said it attracted much attention at the show, where it was weighed in at sixteen pounds. To be less than a year old at the time of winter poultry shows this fowl must have been hatched and partly raised in the winter quarters while they were either entirely covered with snow or completely surrounded by it.

"The point I wish to make is this: If chicks can be hatched and raised in the Sierras under such conditions, it surely should be easily done in the valleys and on the Coast."

PETALUMA WILL SHOW.

Contented because Petaluma is considered the greatest poultry district in the world, the individual fanciers and poultry farmers have until now made no concentrated effort to make a display at the Universal Poultry Show to be held at the Exposition Nov. 18 to 28; they seemed to be indifferent to the mutual advantage to be gained by working together for a good display of both fancy and utility fowls. Apparently this was due to the lack of an energetic leader, who has now appeared in the person of Vincent B. Huntley. From a letter received from F. L. Hall, an expert poultry breeder well known to the poultry keepers of California, we learn of the present get-together movement. Mr. Hall states, in substance, that during a recent visit to Petaluma, Mr. Huntley called him into consultation over the tentative plans. Omitting the many details contained in the letter, we briefly state that the conference resulted in the co-operation of the Chamber of Commerce, merchants, real estate dealers, and bankers. It is quite likely that these interests will subscribe to a liberal fund to assist in paying for an exhibit that will maintain Petaluma's reputation and bring added profit to the district.

KEEPING EGGS FRESH.

[Written for Pacific Rural Press by Geo. H. Croley.]

The State and Federal authorities are devoting much time and attention to the methods used in handling and storing eggs; there is much difference of opinion as to the proper temperature for preserving them for future use, and in regard to other conditions surrounding them while held in storage.

As an illustration of the keeping qualities of perfect eggs, let us notice what was accomplished many years ago without the use of ice. At that time cold storage had not yet become an important factor in the preservation of eggs.

As an experiment, during March, I selected a lot of thirty fertile, fresh eggs, loosely wrapped them in papers, and placed the wrapped eggs in a large splint basket. This basket I put in the back of the store among a lot of merchandise of various sorts, but clean and odorless. This location was also within ten feet of a steam boiler and furnace, but separated from them by a very thick brick wall. This, together with the other existing conditions, was responsible for a uniform temperature night and day, which seldom varied far from fifty-one degrees. The eggs

California Poultry Practice

Written to Teach Better Poultry Methods on the Farm.
By Mrs. Susan Swaysgood.

Every poultry raiser of California should have this book. It is very practical and will help make your business profitable. In the preface of the book the author says:

"This book is not an accident; it is born of a desire to help others to avoid the stumbling-blocks in the poultry business, and at the request of many readers of The Pacific Rural Press, and other papers.

With forty-five years of experience with poultry it is expected that I have learned a few things about it; it's a poor business that does not teach lessons in that length of time. Don't you thinks so?

There are boks, yes, books without number, on poultry matters, but many of them are mostly theory. This book tells you just what I have done and how I would do it.

It is a book of action, and it is action that counts these days. We have to act in the living present if we want to live. I want to live and I want others to live, too, and as I have learned these things by experience it is fitting that I should tell others how to obtain results without paying such a big price for the experience.

The things told you in this book are original, unorthodox, but strictly practical; and if you will read and then heed, you will be well satisfied that the author has given you your money's worth. California is an empire in itself, and I am sure there are enough men and women engaged in the poultry business, or wanting to get into it to call for a million copies of this book, though its only claim is that it is needed."

The book contains 157 pages, besides illustrations. The 45 chapters cover every phase of poultry culture from eggs to hens, and from hens to market. Feeding, housing and parasites.

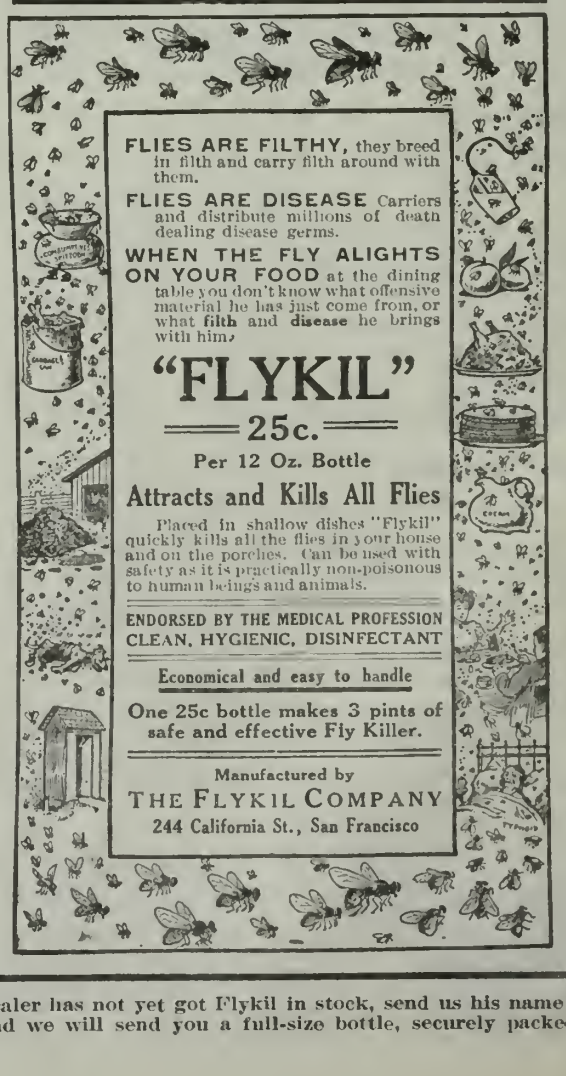
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were turned occasionally, but otherwise nothing was done to preserve them.

During the following October, in order to test the result of the experiment, these eggs were delivered as fresh ranch eggs to a family for ordinary table use. While handling and eating them, these folks not once suspected any deception, although they were repeatedly asked, "Are those eggs all right?" They pronounced them excellent and after they were all used it was difficult to convince them that these eggs were more than six months' old.

They were, of course, from vigorous, well-fed hens, provided with clean nests, and were practically perfect eggs that had been properly gathered and handled from the time they were laid.

Farm Poultry for Profit.

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

WOMEN SUCCEED BEST.

We are not going to cast any reflection on men as poultry breeders, but will try to show why women should make a better success than men, in a great many cases.

Not all women are so built that they would make as good success as some men, but the average woman can succeed if she starts out right. The poultry business is one of small details, even when run on a large scale; there are so many details to it that the average man does not think them important enough to bother with. He reasons some way like this: "Oh, well, that's such a small matter I will leave it for the present." If it is a little chick just starting with a cold, and it gives the cold to a dozen more, then it has assumed a good-sized problem and the man realizes it is time to be doing something.

Now a woman would chase that little chick up one alley and down another, if necessary, because her mother instinct would be aroused and she would want to help it; and the helping of one would most likely put an end to the cold in the flock, thus saving endless trouble.

This is typical of the difference in men and women. Men are built on a plan that fits them for grasping a large contract or problem better than a small one that requires watching. It is simply a matter of centuries of education that has drilled men for the larger things and left the smaller to women. In the old days before incubators came in fashion, raising poultry was a woman's work altogether.

In the raising of fancy poultry, too, women can be more successful because they have a better idea of what a chick can digest, and the quantity of feed that it needs to keep it growing. Our California women get considerable exercise in finance these modern days, so I see no reason why they can't come even on the financial side.

It does not require any great amount of learning to make a success in poultry, but it does require a person with good common sense. A breeder of poultry must have an eye as to the fitness of the stock. And, no matter what breed they engage to raise (mind, raising and breeding are two different things) the breeding comes first; and no matter what breed you have, you must know them like a book, before you can make a success with them. But it takes time to know a breed; you can raise them and gain the knowledge at the same time by observation and comparison.

So while it takes time to gain the knowledge that makes success as a breeder, the average woman can make a success right from the start as a raiser of chicks; and that is where most women shine.

From what I can learn, there are a goodly number of women going to try out the poultry business this year. As most of these women are either widows or women who have to struggle along for their own living, it is necessary that they make a success right from the start. They simply can't afford to experiment. To these and others who want to start but are afraid to venture, I want to say that though things do not appear to be very prosperous at present, if they will raise the stock right and not feed any drones, they will come out all right. There certainly is not any great wealth in any branch of the poultry business, but there is a living, provided we watch the leaks and keep in mind the details. There are quite a few leaks, even in raising chicks. For instance, you can throw down more feed at one time than the chicks need, thinking it will be there when they do need it. But perhaps before they need it the feed has become dirty or birds have had a fill out of it and the rest goes to waste. With chick feed as high as it is this year, all waste must be eliminated as nearly as possible. Another leak may be leaving brooder lamps burning during the day time when the chicks are out on grass. If the morning is bright turn the lamps out as soon as the chicks run out, then during the day you have time to refill the lamp, clean out the brooder and fix things for the night. In filling lamps always leave a little space at the top; an overfull lamp is very likely to make trouble.

If you are just a beginner, get a few hens of any breed to practice with and get an understanding of the needs of poultry, for they all have general needs and all require treatment that may be classed as general; though between the small breeds and the large there is quite a difference.

The large breeds must be fed more sparingly of fat-forming feed and must be force to exercise for what they do get. The small breeds will get exercise without any forcing and they can stand a much richer kind of feed. But even here it is not wise to feed all the fat-forming feed they will eat. Even Leghorns get overfat sometimes. Breeders of all kinds are better for being underfed rather than overfed. The chicks are also more likely to be strong than if the hens have been overfed.

Some young women who have been in the poultry business about two years wrote me that they cannot get their pullets, no matter when they are hatched, to lay without stopping to molt. The pullets mature seemingly, lay a few eggs, then go into molt. Now my experience is that this is caused from feeding the pullets too much forcing food, such as dry mash, before the proper time for them to mature. So many writers urge people to feed, feed and make the pullets come through. Nature says, "Hold on, I have a say in this," and just when the pullets should really be commencing to lay for keeps, they are laying off to molt.

What can be done? Why, it is all right to keep the pullets growing. I hold with that, but don't force maturity by too strong a feed. Coarse food, plenty of it, and green feed in plenty with exercise, will keep them growing. For Leghorns, the pullets should be fed this way until five or five and a half months old, then feed them all good rich food you like and they will use it to advantage. Most all of the commercial mashes have labels advising the free use of this mash from chickhood to maturity. Well, I say don't do it; let them grow and use their gizzard on something coarser than mash.

TURKEYS HAVE COLDS.

To the Editor: What is the matter with our little turkeys. Their heads swell, and eyes are sore; they run at the nose, and their throats are sore.—H. McK., Fair Oaks.

[We believe they are suffering with Avian Diphtheritic Roup which appears in the first stages as a mild cold or it may be the cold that provides the opportunity for the disease to become active. This disease is very contagious and affects chickens, turkeys, ducks and a number of other fowls. You should separate the sick birds at once and disinfect the premises by spraying or painting houses or yards with some strong disinfectant. However we may not be correct and to be certain write at once to the Poultry Division, State Farm, Davis, Cal. and also send one or more of the sick birds (according to whether you have a small or large flock) to the same place. They may be sent either dead or alive. While waiting for a reply put in the drinking water for all the fowls, both sick and well, ten drops of carbolic acid to a gallon of water, or liquid sheep dip may be substituted if you have no acid. Even coal oil, a teaspoonful may help. You might also put Epsom Salts in some moist mash food.]

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WANTED—About seventy-five young men and women to enter the WESTERN NORMAL on August 30th, to prepare for teaching. Western Normal graduates secure and hold good positions. We assist graduates to secure good positions and promotion. We save you time and money. For information address, WESTERN NORMAL, J. R. Humphreys, Principal, Stockton, Cal., Box 704.

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WANTED—Dried fruits, nuts, honey, beeswax, beans, etc. J. E. Lawrence, 326 Clay St., San Francisco.

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BURBANKS SPINELESS CACTUS—Hardiest varieties Melrose and Special. Strong, mature slabs, $8.50 per 100; $50 per 1000. Labranza Ranch, Athlone, Merced Co., Cal.

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JUST NOW—Lists of STATE Land in any 3 counties and valuable lists of Indian land in different counties $5. County Sectional maps showing vacant GOVERNMENT land, plainly marked, helpful in finding State and Indian land from lists, $2.50 any county; also, State map showing townships, counties, roads, towns and school land plainly marked, $2.50. Order today. CALIFORNIA STATE LAND INFORMATION BUREAU, Joseph Clark, Manager, 1511 K Street, Sacramento.

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CALIFORNIA LAND — Money-making little farms. High-class, low-priced in all counties. First mortgage loan on farms bearing 7 to 9 per cent. Call or write the oldest land office in California. C. M. Wooster Co., 303 Phelan Bldg., S. F. Catalog free.

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CITRUS LANDS FOR SALE at one-half its value, near Lemon Cove and the famous Merryman ranch, on electric line. For description and price, write or call on A. G. Griswold, Exeter, Cal.

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I HAVE ENLARGED my capacity to 65,000 eggs room and can accommodate my customers better than ever with white and brown Leghorn chicks; also Barred Rocks and Rhode Island Reds. Indian Runner Ducks, Santa Clara Valley Hatchery, San Jose, Cal., R. R. 6, Box 336C. Phone S. J. 1889.

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BOSWORTH'S Imperial Red New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville, Cal.

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to your pullets as well as your hens, commencing at the age of three months.
Write for free book "Chickens" from shell to market.
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Petaluma, Cal.

The Home Circle.

THE MOO-COW-MOO.

My pa held me up to the moo-cow-moo
So clost I could almost touch,
En I fed bim a couple of times, or two,
En I wasn't a fraid-cat — much.

But ef my papa goes into the house,
En mamma, she goes in, too,
I just keep still, like a little mouse,
Fer the moo-cow-moo might moo.

The moo-cow-moo's got a tail like a rope
En it's raveled down where it grows;
En it's just like feeling a piece of soap
All over the moo-cow's nose.

En the moo-cow-moo has lots of fun
Just swinging his tail about;
En he opens his mouth and then I run
'Cause that's where the moo comes out.

En the moo-cow-moo's got deers on his head
En his eyes stick out o' their place,
En the nose o' the moo-cow-moo is spread
All over the end of his face.

En his feet is nothing but finger-nails,
En his mamma don't keep them cut;
En he gives folks milk in water-pails,
Ef he don't keep his handles shut.

'Cause ef you or me pulls the handles, why
The moo-cow-moo says it hurts,
But the hired man he sits down clost by
En squirts, en squirts, en squirts!
—Edmund Vance Cooke.

POLLY PUTOFF.

Her real name was Polly Putnam, but everybody called her Polly Putoff. Of course, you can guess how she came to have such a name. It was because she put off everything as long as she possibly could.

"Oh! You can depend on Polly for one thing," Uncle Will would say. "You can depend on her putting off everything, but that is all you can depend on." And I am sorry to say he spoke the truth.

"Polly, Polly," mother would say in despair, "how shall I ever break you of this dreadful habit?"

It was just three days to Polly's birthday, and she had been wondering very much what her mother and father intended to give her. She thought a music-box would be the best thing, but she was almost afraid to hope for that. A man who went about selling them had brought some to the house, and Polly had gone wild with delight over their pretty musical tinkle.

"Polly," mother said that morning, "here is a letter that I want you to post before school."

"Yes, mother," answered Polly, putting the letter in her pocket.

As she reached the school-house, she saw the girls playing; and she stopped "just a moment." Then the bell rang, so she could not post the letter then. She looked at the address. It was directed to a man in the next town. "Oh, it hasn't very far to go. I will post it after school."

After school she forgot all about it.

"Did you post my letter, Polly?" asked mother, when Polly was studying her lessons that evening.

Polly's face grew very red, and she put her hand in her pocket. "I will post it in the morning," she said faintly.

"It is too late," answered mother. "The man to whom the letter is directed went away this evening and I haven't his address. It really only matters to yourself, for it was an order for a music-box for your birthday."

"O mother," exclaimed Polly, "is it really too late?"

"I don't know where he is now," said mother. "If you had not put off posting the letter, he would have received it before he started, and sent the music box. It is too late now."

Wasn't that a hard lesson? It cured Polly, though; and she has nearly lost her old name.—Christian Uplook.

HOME MADE "LOGAN" JUICE

Take clean, fresh ripe loganberries and heat to the boiling point with just enough water to keep from burning; remove from the fire at once and strain through a coarse sack. Take the juice, sweeten with three pounds of sugar to each gallon, set back on the stove and again heat to the boiling point, not letting it boil. Pour into ready cleaned and heated bottles and seal immediately. Common soda or pop bottles are good for this purpose to be corked and sealed with paraffine; or, glass fruit jars sealed in the usual way. The bottled juice is then set away in a cool and dry place, where it will keep for a long time. When wanted for use it is simply poured from the bottles, diluted to taste, and it is then a fit drink for a prince. Don't let your surplus berries go to waste if you like a good soft drink. Make some of them into juice for table use.

TO MAKE BARLEY WATER.

Barley water is a fancy of the moment and a famous brew is made at a New York club. Not many people know this recipe, but here it is: Put a breakfast cup of well-washed barley into a dome-shaped strainer. Put this over a two-gallon jug and then add eight lumps of sugar and the rind of eight lemons.

The boiling water must be allowed to drip on to this from a boiler. It ought to drip very slowly and the barley water should have two hours to brew if it is to be a success. Before setting it on ice to cool off add the juice of half a lemon. When cold it should be quite clear. This of course makes a large allowance.

SMALL ECONOMIES.

A small economy, requiring only a little thought and care, is to save the liquor after boiling corned beef. When cold, a cake of grease will have formed over the top. Remove this cake and place in a dish on the stove, melting and simmering slowly until it stops bubbling, then strain through a cloth. With very little butter this shortening will make excellent plain cakes, gingersnaps or cookies. It is nice and brown, and will make a very good brown gravy

A strong character, whether its influence is good or bad, dominates the atmosphere in which it is placed. If it is your boy who is that strong character, dominating it with his ill tempered or sullen ways, it is your duty as a mother, and as a mother with dignity, to find a way to put a stop to the injustice to the others.—Louise Mitchell.

"George," said Hilda, looking up from the morning newspaper which she was reading "it says here that another octogenarian is dead. What is an octogenarian?" "Well, I don't know what they are, but they must be very sickly creatures. You never hear of them but they are dying."—Dallas News.

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—This is a great opportunity for farmers, contractors, improvement and development companies, to secure quantities of shovels for present as well as future needs.

Whether You Buy One or a Dozen You Can Save Money

—They are all in good working condition, have been slightly smoked by reason of having been in a ship that caught fire, but this in no way affects their usefulness.

Long Handle, Round Point Shovels, per doz...$4.85 or 50c each
Long Handle, Square Point Shovels, per doz...$4.85 or 50c each
D Handle, Round Point Shovels, per doz.....$4.15 or 50c each
D Handle, Square Point Shovels, per doz.....$4.15 or 50c each
Long Handle Spades, per dozen .....$3.75 or 40c each
D Handle Spades, per dozen .....$3.75 or 40c each
Long Handle Scoops, per dozen .....$3.75 or 40c each
D Handle Scoops, per dozen .....$3.50 or 40c each

26-Gauge Painted Corrugated Iron Per 100 Sq. Feet.. $2.60

$30 Fiber Wall Board for $19

—Has three layers of fiber with waterproof composition between the layers. Nothing better for finishing new or refinishing old walls. Of the same workmanship and quality as the kind that most dealers sell you for $30 and more per thousand square feet.

TOILETS AT $15.50

COMPLETE WITH VITREOUS CHINA BOWL AND TANK

—These toilets are perfect in every respect and fully guaranteed. Made by the famous Johnson Bros., Hanley Limited, England. Both bowl and tank are of vitreous china, and wood seat is fitted with finest post hinges. Other dealers would charge you at least $20 for toilets like these. —Special steel enameled bath tub $8.00. Other sizes $8.50, $9.00 and $10.00.

$1.80 Oil Wood Stain $1.00
$2.80 Oil Wood Stain $1.50
—A fine quality oil wood stain for interior finishing. Much used for bungalows, etc. Makes a fine lasting finish.

65c to 75c Shingle Stain 50c
—All colors of shingle stain except gray that should be selling at 65c to 75c per gallon, now going at 50c per gallon, in five-gallon lots.

Freezers ½ and Less
—Dana Ice Cream Freezers always command full price. Here they are at ½ and less.
2-quart size, reg. $1.75, now .....$ .75
3-quart size, reg. $2.25, now..$1.00
4-quart size, reg. $2.50, now..$1.25

READY ROOFING (Paper)
$1.15 to $1.75
1 ply Double Sanded, per roll.....$1.15
2 ply Double Sanded, per roll.....$1.40
3 ply Double Sanded, per roll.....$1.65
1 ply King, per roll $1.25
2 ply King, per roll $1.50
3 ply King, per roll $1.75
Snow-White Roofing Paper, per roll $1.75

$2.25 House and Floor Paints, $1.25 Gallon
—Secured by us at bankrupt sale; lot includes many famous brands. Good assortment of colors.

$2.50 Varnish Remover, $1.75 Gallon
—The famous Hi-Lo varnish remover, said by many to be the most practical of the many varnish removing preparations.

$2.25 Wall Paints, $1.25
—Made especially for use in kitchens, bathrooms, etc., as steam and heat do not affect them. Can be washed with soap and water without injury.

12c Wall Paper Paste, 10c Pound
Dry wall paper paste, the kind that we sell to regular paper hangers. Other stores sell this regularly for 12c—our price, 10c pound.

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Ants are persevering insects. They persist in living long after you think you have put the quietus on them forever. A cat may have nine lives, but he has got nothing on an ant in this respect.

Many remedies have been tried on ants without result, but one has at last been discovered which will absolutely put them out of business. A baker and candy-maker in Los Angeles, driven to distraction by this pest, prepared a paste which drove every ant out of his shop in one day. Ants cannot exist where this remedy is used. Thousands of testimonials from all over the country bear witness to its efficacy.

It is put up for general use under the name of Kellogg's Ant Paste, and can be obtained at all good druggists. Try a package today and end your ant troubles for all time.

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We keep a full line of supplies and are prepared to serve bee-keepers promptly.

Write for Catalogue A.

A. I. ROOT CO.,

58 Sutter St., San Francisco.

WEDDING PRESENTS.

Table linen should never be given to a bride except by her immediate relatives, who occasionally make it a joint present to the young people. It falls into the category of house furnishings, and this it is the business of the bridegroom to attend to.

The question when to send wedding presents is a very moot point. It is not expected that anyone should send until the date of the marriage is settled, and the fixture of the event is the time-honored privilege of the bride. The usual course followed is to send a present, with a note of good wishes, a few days after the receipt of the invitation to the wedding.

It is the bride's duty to acknowledge each present—to fail to do so is an almost inexcusable offense against the laws of courtesy and good taste.

The letter should be dispatched immediately on receipt of the present, and the wording should be simple and to the point, though, of course, this will vary much according to the relationship existing between the bride and the donor.

FOR THE DINNER TABLE.

Silk and satin decorations have had their day. They are seldom seen now and jar on good taste, because we instinctively feel that all table ornaments should be of washable materials, since they are liable to become soiled.

Tea experts tell you that 90 per cent of the desirable stimulating quality and 10 per cent of tannin is extracted the first four minutes. If tea steeps longer the extraction of tannin predominates, destroying the delicious aroma and giving tea an acrid taste.

When buying bacon choose that with a thin rind and with firm fat of a pinkish white.

If milk is used instead of water when mixing mustard for the table, it will look fresh for several days.

PACKING SUMMER CLOTHES.

I am sure you all dread packing clothes in a trunk or suitcase, and yet it is not an unpleasant task if it is done properly. To fold a skirt for packing lay it on a flat surface, and even the lengths at top and bottom edges, keeping the exact back of the belt to the center front of the waist belt; then turn the sides of the skirt, folding toward the back; lay tissue paper between the folds, in this way narrowing the skirt to the necessary width for packing. Fold over the top of the skirt to shorten the length for a short tray and put a thick roll of tissue paper under the fold to prevent the skirt from creasing crosswise. In packing a waist, button or hook it, and then fill the sleeves and the body portion with crumpled up tissue paper. If it is necessary to narrow the waist for a small space, fold it also toward the back, and lay tissue paper between the folds. Coats should be laid out flat and the sleeves and front portion at the bust line filled with wads of tissue paper.—Mrs. Ralston.

"No wonder the Scotch get rich," said a man, laying down a magazine about the multimillionaires of Scottish blood. "No wonder." He puffed his Havana thoughtfully. "An Irishman and a Scotchman went into a bar one day," he said. "But the Irishman had no money." He blew a fragrant cloud towards the ceiling. "So they came out," he said, "without a drink."—London Opinion.

KEEPING FLOWERS FRESH.

An authority on flowers has this o say in regard to their preservation: "Place the flowers in a vase filled with fresh water to which a little charcoal or a small piece of camphor has been added. The vase should be set upon a plate or dish and covered with a bell-shape glass. Around the edge of the glass a little water should be poured, so that air will be excluded.

"If fresh cut flowers need reviving, place the stems in boiling water, and by the time the water is cold the flowers will have revived. Cut the ends of the stems anew and place in fresh cold water."

A MATTER OF CONDUCT.

The girl who is proud of her "Bohemian" tendencies will always find men ready to meet her more than half way.

The girl who carefully keeps her feet from straying into lax by-ways and occupies her time in useful activities will not find mankind totally depraved.

DON'TS FOR MARRYING.

A recent periodical has given the following sensible don'ts for the consideration of girls contemplating matrimony:

Don't marry to reform a man. He who would not reform before marriage is not likely to do so afterward.

Don't marry a man to whom you have said "yes" in a moment of sympathy or sentimental ecstasy.

Don't marry a man who has only his love to recommend him; there are other qualities in a husband quite as important as love.

Don't marry a man for livelihood; there are better, safer and more honorable ways in which a woman may earn a livelihood nowadays.

Don't marry a man who threatens to go straight to the bad if you refuse him.

Don't marry a man because he is handsome or because he wears his clothes well.

Mr. Williams: Wha' yo' doin' dat fo', Mr. Jo'son—puttin' mosquito nets up dis time in de year? Mr. Johnson: Waal, yo' see de doctor tole me de air war full of dis yer grip microbes; so I's takin' precotions agin gittin' 'em into de house. —Harper's Bazar.

July 31 will be San Joaquin Valley day at the Panama-Pacific Exposition.

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Good, sound ..... $14.00 M
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READY BUILT HOUSE CO.

973 Broadway. Portland, Ore.

The Markets.

Unless otherwise noted prices are f. o. b., San Francisco.

San Francisco, July 7, 1915.

WHEAT.

The local grain exchange closed Friday, and on opening Tuesday there was practically no trading in any description of grain. Wheat prices, however, show a firmer tendency, with reports of some large sales for export and indications of a better movement.

Cal. Club, ctl.	$1.70	@1.72½
Forty-fold	1.75	@1.80
Northern Bluestem	1.80	@1.85
Northern Club	1.70	@1.72½
Northern Red	1.70	@1.80

BARLEY.

No further change is noted, and locally the market shows little strength, as offerings are liberal and include a good deal of poor grain, while the demand so far has been limited. Growers in the Valley, however, are inclined to hold their grain.

Choice Feed, ctl. ....$1.02½@1.05

OATS.

There has been no business of any consequence here for the last week, and values stand nominally as before.

Red Feed	$1.35@1.45
White	1.45@1.50

CORN.

Business is limited to small jobbing operations to meet current needs for feed, which are not especially heavy at the moment. Values are unchanged.

California Yellow	$1.75@1.80
Eastern Yellow	1.80@1.85
Milo Maize	1.75@1.80
Manchurian	1.40@1.60

BEANS.

The local market has eased off again, bayos and cranberry beans, pinks and large whites all showing a slight decline, while horse beans have dropped sharply. Business here has been very quiet, and there is an ample supply of most varieties on hand. Some large sales are reported in the country, however, shipment being delayed until a cut of eastern freight rates takes effect; and if there is a fair renewal of buying after that it is believed that the old crop will be pretty well off the market before new beans are shipped. A large acreage is going in, and with favorable weather conditions the crop will be large.

(On Wharf.)

Bayos, Cal., per ctl.	$3.50@3.75
Blackeyes	5.50@5.65
Cranberry Beans	3.50@4.00
Horse Beans	2.25@2.75
Small Whites	4.00@4.15
Large Whites	3.75@3.90
Pink	3.15@3.40
Limas	4.00@4.15
Red Kidney	4.90@5.00
Mexican Reds	4.90@5.00

SEEDS.

There is practically no business in any line at present, and prices stand nominally at the same level as for some time past.

(Wholesale prices, San Francisco.)

Alfalfa	17½@18½c
Brown Mustard, per lb	Nominal
Canary	10 @12½c
Hemp	3 @ 3½c
Millet	2½@ 3 c
Timothy	7½@ 8 c

HAY.

Arrivals continue large, and there has been very little life to the market for local consumption. Dealers, in fact, see little in conditions here to lead one to expect improvement, as it is estimated that the number of horses kept in the Bay cities is decreasing in number; and the recent departure from business of a large stable is cited as a discouraging factor. The situation in the country, however, tends to improve a little, mainly on account of the development of export markets, which have facilitated a cleanup of old stock and are now aiding in the movement of the new crop. Australia has taken a heavy tonnage, and reports come from the country of large purchases of alfalfa for the Atlantic States and even for Europe. The quality of new wheat and oat hay is very good. Volunteer hay is plentiful, but rather slow to move.

(Prices per ton, carload lots, on track, San Francisco.)

No. 1 Wheat, per ton.	$11.00@11.50
do. No. 2	8.00@ 9.00
Barley	5.00@ 8.00
Tame Oats	7.50@12.50
Wild Oats	6.00@ 8.00
Alfalfa	6.00@ 9.00
Stock Hay	4.50@ 5.00
Straw, per bale	.40@ .45

FEEDSTUFFS.

Prices show no change whatever, and business for the last week has been only of a small routine jobbing nature.

(Wholesale prices per ton, carload lots, San Francisco.)

Alfalfa Meal, ton	$14.00@15.00
Alfalfa Molasses Meal per ton	18.00@19.00
Bran, per ton	29.00@30.00
Oilcake Meal	None here
Cocoanut Cake or Meal	25.00@26.00
Cracked Corn	40.00@41.00
Middlings	34.00@36.00
Rolled Barley	23.00@24.00
Rolled Oats	33.00@34.00

VEGETABLES.

Business was rather quiet early in the week, and with somewhat heavy offerings in nearly all lines prices show some easiness, though comparatively few changes in quotations are noted. String beans have been in rather heavy supply, and ordinary stock is lower. Offerings of asparagus have been in excess of requirements, and $1.25 is the outside price, while canners are taking the surplus at about 75c. Merced potatoes stand about as before, but Los Angeles lugs find better sale, bringing up to $1.10. Rhubarb is a little lower, being hard to clean up. Cucumbers are considerably lower, with liberal shipments from several districts, while eggplant has stiffened up. Green corn holds up fairly well, but the top price is lower.

(Wholesale prices, San Francisco.)

String Beans, lb	1½@ 3½c
Lima Beans	5 @ 8 c
Celery, crate	.50@1.25
Lettuce, crate	.75@1.00
Asparagus, box	$1.00@1.25
Peas, sack	.75@2.00
Peppers, bell, lb.	10@12½c
Tomatoes, crate, Merced	.35 @50c
Rhuharb, box	.50 @65c
Cucumbers, lug	.30 @50c
Eggplant, lb	5 @10c
Summer Squash, lug	.20 @50c
Green Corn, sack	1.00@2.50
Okra, crate	.75@1.25

POTATOES AND ONIONS.

There is little change in this market. River potatoes are a little steadier, but still show no great strength, while onions stand as before, with a very fair demand for new red stock.

New River Potatoes, ctl.	.85@1.15
Onions, yellow, ck	60@65c
Red, sk.	60@65c
Bermudas, crate	.90@1.00
Garlic, per lb. new	5@6c

POULTRY.

The last few days have brought in very little California stock, and with rather light arrivals from the east the market is in a much stronger position than for about a fortnight past, supplies being now rather light. Price changes are not important, but broilers and fryers are a little higher.

(Wholesale Prices, San Francisco)

Live Turkeys, lb	15 @17 c
Broilers	20 @21 c
Fryers	21 @23 c
Hens, extra, per lb	16 @17 c
Small Hens, per lb	13 @14 c
Smooth Young Roosters, per lh.	24 @27 c
Squahs, per doz	$2.00@3.50
Geese, per pair	2.00@2.50
Ducks, young, lb	14 @15 c
Old	13 @14 c
Belgian Hares	6 @ 7 c

BUTTER.

Extras show another slight advance, though prime firsts are lower. The local demand is fair, and the market is helped out materially by the Australian business, which took about 700,000 lbs. the first of the week, with more to follow about July 20. Liberal shipments are coming in from the north.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	25½	26	26½	—	26½	26½
Prime Firsts	25	25	25	—	25	25

EGGS.

Extras have stiffened up materially since the first of the week, and other grades also show a slight advance. The firmness is due in part to light arrivals after the holidays, while the local demand is keeping up in good shape.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	23½	24	24	—	25	26
Firsts	21	21	21	—	21	21½
Sel. Pul.	19½	20	20	—	20½	21

CHEESE.

Flats and Y. A.'s hold steadily to the old quotations, with both supply and demand fairly large, and liberal offerings from the north. Monterey cheese is slightly higher, but supplies are considered excessive.

S. F. Dairy Exchange prices on flats and Y. A.'S)

Y. A.'s, fancy	12½c
Fancy Calif. flats, per lb	11 c
Monterey Cheese	11@13 c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	—	26
Eggs	22½	21½	22	22	—	25
Cal. Cheese	12	12	12	12	—	12

DECIDUOUS FRUITS.

A few seedless grapes are coming in, and clean up readily at high prices. A few lots of huckleberries have also appeared, bringing over 20c per lb. Other berries are firmer, with comparatively light arrivals, red logans, strawberries and blackberries all being higher. Satsuma plums bring rather higher prices, other varieties being easy. Figs are considerably lower. Cherries have eased off a little, as there are still a good many coming in. Apricots in lugs are quite easy, with a good deal of ripe stock offered, but choice lots in small packages are steady. Crated peaches show some firmness, but Delta basket stock sells down to 50c, and weak at that. Some new Gravenstein apples are appearing, selling up to $1.75. Melons are unchanged, but cantaloupes are very easy. Casabas are expected earlier than usual.

Loganberries, hlk, chest.	$1.50@2.50
Loganberries, red	3.00@3.50
Strawberries, chest	3.50@6.00
Raspberries, chest	4.00@7.00
Blackberries, chest	3.50@4.50
Currants, chest	2.50@5.00
Plums, crate	50 @85 c
Figs, box, single layer	30 @50 c
do, double layer	60@1.00
Cherries, lb.	4 @ 8 c
Apricots, crate	50 @60 c
Lug	.50@1.00
Pears, Bartlett. box	.90@1.00
Other varieties	.75@1.00
Peaches, crate	55 @85 c
Small box	40 @55 c
Apples, new Red Astrachan, box	$1.00@1.35
Apples, Gravenstein	1.50@1.75
Cantaloupes, pony crate.	.75@1.00
Standard crate	1.25@1.50
Watermelons, lh	½@ 1½c
Grapes, crate, Thompson seedless	1.00@1.50

DRIED FRUITS.

Considerable business is being done on new crop fruit in the country, but the local packers do not seem to be taking hold very readily, and from all that can be learned the trade everywhere shows the same apathy that has characterized trading for the past year. The outlook is decidedly uncertain, and all buying interests are anxious to avoid loading up until assured of a market. There is also the seasonable desire to exert a bearish influence in the country, and with this in mind growers are not disposed to stampede. According to some packers, the market is going to be very sick in the next few months; but it seems unsafe to venture definite predictions one way or the other, and England is said to be out with large inquiries. At present, new white figs are quoted a little lower, 3c seems to be the top price for prunes, and peaches show a decline. The only especially interesting feature is the strong English demand for spot prunes, good sized purchases of which have been made for prompt shipment from New York. The New York Journal of Commerce says:

"A sale of 4,000 boxes of prunes at the full quoted price was made in the New York spot market July 2 for immediate shipment to Europe. England is increasing her inquiries and it is said constant shipments are being provided for by factors here. According to one large holder, it looks like a big business soon and there will undoubtedly be more sales made in the near future. London brokers are showing an interest and are asking for samples daily from the market here.

"Supplies of all sizes, both California and Oregon, are becoming very scarce on the local market here.

"Demand for local needs is only being made in small quantities owing, it is said, to the limited supply which is available. No new shipments from the Coast of any size are expected to be received until the new crop begins to arrive about the middle of October. Until then what is now on hand will have to satisfy the immediate needs of the factors here. Prices are being maintained and in some quarters it is said that higher figures are expected soon. At least the tendency of the market is toward a higher level.

"A very satisfactory demand is being shown for raisins, it is said, upon the basis of the prices which have been quoted by the Associated Company for shipments of old crop during August and September. The call for spot stocks is good. The supplies of fine quality raisins in the market is not found to be large, much of the fruit being of an inferior quality. With European buyers asking for bids the trade in raisins is increasing, according to brokers who are in a position to know."

(Prices to Growers.)

1915 crop.

Apricots, per lb	5½@7 c
Figs, white	3¼@3½c
Black	2¼@3 c
Calimyrna	4½@5 c
Prunes	2¾@3¼c
Peaches	2½@3 c
Pears	5 @8 c
Raisins (in sweatbox):	
Loose Muscatels	4 @4½c
Seedless Sultanas	5 c

CITRUS FRUITS.

The eastern auction points have eased off a little in the prices paid for Valencia oranges, but good figures are still being paid for the fruit, averaging from $2.40 to $4.60 per box. Lemons are beginning to attract more attention now that the hot season is on and it is expected that better prices will soon be realized. Shipments from California are averaging nearly 100 cars per day.

Notwithstanding the abundance and cheapness of deciduous goods, Valencia oranges find very ready sale in the San Francisco market, and prices have been marked up. Grapefruit also is somewhat higher, with quite a lively demand locally.

(Wholesale Prices, San Francisco.)

Oranges, Valencias, bx.	$2.75@3.50
Grapefruit, seedless, box	2.00@2.25
Fancy	2.50@3.00
Lemons, box	1.50@3.50

NUTS.

There is little new in the nut situation, as the majority of growers are inclined to await further developments before accepting any of the offers so far made. Spot supplies are very light in both almonds and walnuts. The new walnut crop is expected to be one of the largest ever produced in the State.

(Prices f. o. b. San Francisco.)

Almonds, 1915 crop:	
Nonpareil	17 c
IXL	14½c
Ne Plus Ultra	14 c
Drakes	12½@13 c
Languedocs	11 @11½c
Walnuts:	
Jumbo, lb	19 c
No. 1 Softshell	16½c
Budded	18 c
Ungraded	8 @10 c
Manchurian	6 @11 c

HONEY.

Offerings of new comb honey are now sufficient for current needs, and prices show some reduction. No new extracted is moving yet, but some is expected soon. It is said that on account of the late rains the crop will be unusually large.

Water White, comb	12 @15 c
Light Amber	8 @10 c
Water White, extracted	5 @ 7 c
Light Amber	3½@ 4 c
Dark	2 @ 3 c

LIVE STOCK.

Prices on all lines of live stock and dressed meat stand as last quoted, cattle and hogs being fairly steady after the recent decline.

(Prices at San Francisco.)

Steers, No. 1	6¼	@	6½c
No. 2	6	@	6¼c
Cows and Heifers, No. 1	5½	@	5¾c
No. 2	5¼	@	5½c
Bulls and stags	4	@	5 c
Calves: Light			9 c
Medium	8	@	8½c
Heavy	6	@	7 c
Hogs: Grain-fed:			
200 to 300 lbs.			7¼c
100 to 200 lbs.			7¾c
Prime Wethers	6½	@	c
Ewes	6	@	6½c
Suckling lambs	8	@	8½c

DRESSED MEATS.

Steers	10½	@11	c
Veals, large	12½	@13	c
Small	14	@15	c
Prime Wethers	6½	@7	c
Ewes	11½	@12	c
Suckling lambs	14½	@15	c
Hogs	12	@12½	c

WOOL.

Sales have been reported recently in the Ukiah district at 25c or better, but there is not much offering now that would bring such prices. Some large sales have recently been made in Oregon, and a good many clips are still being picked up by local buyers, who report a good demand in the east.

Wool, Sacramento Valley, lb	18	@	22c
Southern, year's staple	15	@	18c
Six months	14	@	16c

HORSES.

The market locally shows the effects of the holiday, with buyers entirely apathetic and nothing of an especially attractive nature coming in. While, according to reports from some well informed parties, the number of horses used in San Francisco and vicinity is decreasing, desirable drafters still find fairly good sale here, and good stock of nearly any weight brings comparatively good prices. Buying for Europe is cleaning up a great amount of stock in the country, though practically none of it is of a type desired in the San Francisco market.

(Approximate values at San Francisco, based on auction sales.)

Heavy drafters, 1700 lbs. and up	$275	@	300
Light drafters, 1550 to 1650 lbs.	175	@	200
Chunks 1350 to 1500 lbs	150	@	175
Wagon horses, 1050 to 1350 lbs.	100	@	140
Green Mountain range horses, 950 to 1200 lbs	50	@	90
Farm workers	60	@	75

MULES.

1200 lbs and up	$225	@	250
1100 lbs.	200	@	225
1000 lbs.	150	@	175
900 lbs.	125	@	150

HIDES.

Heavy Steers, over 56 lbs	16	@	16½c
Medium	16	@	16½c
Light Steers, under 48 lbs	16		c
H'vy Cows, over 50 lbs	15½	@	16½c
Light Cows, 30 to 50 lbs	16		c
Kip	16	@	17 c
Veal			17 c
Calf			17 c
Dry Hides	27	@	28 c
Dry Kip, 10 to 15	26	@	27 c
Dry Veal, 5 to 10			31 c
Dry Calf, 7 down			31 c
Horse Hides—			
Salt: Large			$3.00
Medium			2.50
Small			1.00

HOPS.

1915 crop, lb	8½	@11	c

FRUIT MARKET AND CROP CONDITIONS IN THE SANTA CLARA VALLEY.

A well known grower of the San Jose district sends us the following:

"The fruit market in the Santa Clara Valley is suffering from general apathy, or perhaps from something worse than that. The drying season has begun and the bulk of the apricots and prunes is still in the hands of the growers, in just what proportion cannot of course be accurately known. Estimates of the quantities of these two fruits still held by the producers vary from 75 to 90 per cent. Probably more prunes than apricots have been sold and the prune market is now stronger than the apricot. Offers of 3½ to 3⅞ cents per pound are made for prunes with but few sales. The range on apricots is from 6½ to 7¼ cents per pound with little business done. Both packer and grower are watchfully waiting.

"Canners have bought a few apricots at $25 per ton from San Francisco commuters in the Los Altos-Mountain View district, and $30 per ton have been paid for choice lots in other sections. There are also reports of sales at $20-$22 per ton. Many growers have refused offers of $25 per ton and have made arrangements to dry their fruit. Apricot pits are now sought for at $24-$27 per ton, the higher price being paid for the larger lots. Many pits were sold early in the season for $18-$20 per ton.

"Neither apricot nor prune crop prospects are as good as they were a few weeks ago. In some orchards cots have fallen badly and the best informed growers estimate this year's crop at not over 60 per cent of last. The prune aphis continues to spread and in many cases crop damage will result unless the pest is checked through hot weather or other natural causes."

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The Hinman Milking Machine Company, with offices and factory at Oneida, N. Y., received international prestige by being awarded the gold medal for its machine at the Panama-Pacific Exposition. The medal is the highest given for this branch of exhibits. The Hinman Company received ten points credit toward the medal early in the year by having its exhibit in place on time. The Hinmans have secured three other gold medals for their machine. One was won at the Waterloo (Ia.) Dairy Cattle Congress and two others at State fairs in Mississippi.

AMERICAN DRIED FRUITS POPULAR.

The Bristol, England, Chamber of Commerce reports that shipments of dried fruit from San Francisco to Bristol via the Panama Canal have arrived in excellent condition. This route has the advantage of giving a more certain date of arrival as well as a much lower freight rate than the overland route. The war has, however, had the natural result of causing uncertainty as to the requirements of the dried-fruit trade. Imports of currants from Greece for the season have fallen slightly below those of previous years, but the trade in raisins from Spain was practically normal. The importation of Smyrna sultanas was about half that of the preceding year owing to the closing of that port after Turkey entered the war.

The business done during the Christmas season was beyond expectations, and there was a very general demand for all classes of dried fruits. California fruits continue in good demand, prunes making $12.65 to $13.38; dried apricots, choice Royal $13.38, fancy $15.09; apple rings, prime $9.73, choice $10.22. California evaporated fruits are meeting growing popularity, and local importers express the opinion that with the improved shipping facilities now available the consumption of this fruit is likely to increase year by year.—"Commerce Reports."

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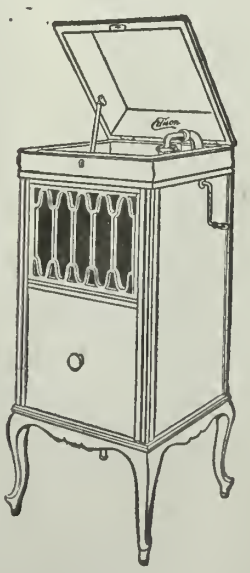
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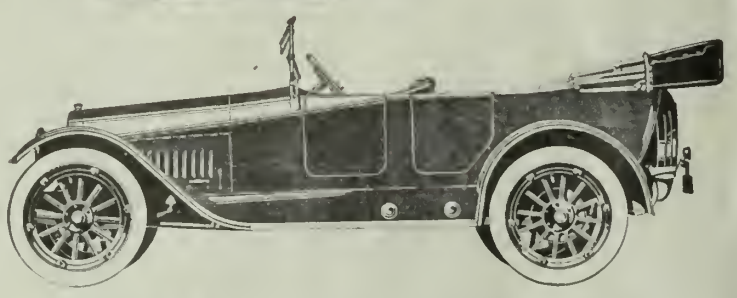
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THE PACIFIC RURAL PRESS

SAN FRANCISCO Saturday, July 17, 1915 LOS ANGELES

California State Library

What Thinking is Doing for Beef.

[Written for Pacific Rural Press.]

THE statisticians who have been so busily engaged telling us about the world-wide meat shortage should certainly be complimented for at least one thing: they have got everybody from producer to consumer thinking of "more meat"; thinking is a pretty good thing for progress in any line of business.

Before the statistician started on his crusade, the California beef grower began to see that his area for maturing and fattening cattle was fast being diminished by diversified farming. He knew that much of the range land is so rough that it is only adapted to cattle breeding and that he could, therefore always expect to breed cattle. But how to mature and fatten them economically — that was and still is the question.

Now it has so happened that the range owner is not the only one who pricked up his ears when we began to hear about the immense shortage and the high prices of beef. The fellow who purchased the range man's maturing and finishing land began to think, then to theorize, and finally in some few cases to act.

The result of this combined thinking on the part of the range man and the man who bought his land is gradually shaping itself into concrete form, although the whole proposition is so new that both parties are afraid to draw their breaths for fear their paper house will fall down.



A Scene Which Should Be More Common. Good Herefords on a Diversified Ranch in Yolo County.

The Range Waste and Cure.—First let us see how the situation now appears from a range man's standpoint. One of the largest cattle owners in the State puts it this way: "We have been wasting too much range in our efforts to breed, raise, and finish our cattle on range suitable only for breeding; also we have not utilized as much rough land as would be possible if less maturing and fattening were done on the ranges, and more breeding were practiced. We are annually bringing from other States over 200,000 head of cattle for maturing, feeding, and slaughter; the larger part for fattening purposes. The feed these cattle consume on the range should be used to raise more calves of our own to seven or eight months old, when they should be taken in hand by men better qualified both in land holdings and disposition to properly mature and fatten for the market."

Toward the practical working out of this theory, he strongly urges the use of only good beef bulls—never dairy types—used only between the ages of two and six years. Heifers, he thinks, should not be bred under two years of age, or cows after eight years old. He would replenish his herd by reserving 20 heifers for every 100 cows and sell for feeders each year all dry and old cows above the desired number. He would have his calf crop come during the first three months of the year, February preferably, if climatic conditions warranted it; and would sell his crop of weanlings and yearlings in the fall in time to go into the feed lots of his friends with alfalfa lands. Remember that this is not the writer's personal theory, but that of one of our most successful and extensive range men; and while his mode of procedure may be somewhat different from that of others, it shows the way the wind is blowing among the range owners.

Feeding Has Advanced.—Fine enough for the range men, but where does the small farmer get off? Fortunately, there have been enough venturesome persons among that class to go over the head of theory and get down to actual accomplishment.

Those of our readers who have followed the livestock pages in this journal will remember various articles dealing in detail with results obtained in finishing cattle on alfalfa, supplemented with silage and other feeds. In every instance it has been shown that while most of them were carried out as an experiment, and as a consequence under adverse conditions, the financial returns were satisfactory. But in each case there was a stumbling block that is beyond the feeder; namely, not a large enough supply of well-

(Continued on page 64.)

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California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at 5 p. m. July 13, 1915.

STATIONS	Rainfall Data: Week Past	To Date Seasonal	to Date Normal	Temperature Data: Max'm	Min'm
Eureka	0	.20	.09	66	54
Red Bluff	0	0	0	98	60
Sacramento	0	0	0	92	56
San Francisco	0	.01	0	71	52
San Jose	0	0	0	84	52
Fresno	0	0	0	98	60
Independence	0	0	0	94	56
San Luis Obispo	0	.01	.01	82	50
Los Angeles	0	0	0	84	58
San Diego	0	0	0	78	56

THE WEEK.

Inasmuch as it is practically impossible for anything to happen to the California weather until the September rain clouds heave into sight, it is eminently fitting that the weather-prophets should do up their season's scrapping. And they do not seem averse to it. The great spotlight weather-projector, Father Ricard, of the Santa Clara University, smites hip and thigh his former assistant, Father Albert Porta, who has recently been doing a little storm and earthquake prophecy on his own account. It seems, from remarks credited by the associated press to Father Ricard, that Father Porta's scientific career is itself somewhat over-spotted. These are the quoted words: "The meteorological and seismic forecasts of Prof. Albert Porta, a former instructor in Turin University, are a delusion and a snare. It is a matter of serious doubt whether he knows the difference between a magnet and a cow's horn."—which is as good a metaphorical presentation of a draw-and-thrust fight as one can easily think of. Reading the controversy gives us an impression that Father Porta is something of an improvement on the leopard because he can change his spots and by so doing modify his prophecy, and that gives him rather more freedom than Father Ricard's scientific conscience will allow him to enjoy. And yet Father Ricard's statement itself indicates that spots are not enough, for he says: "Forecasting is not simply a matter of abstract principle, but, above all, one of long experience, and such an experience, too, as is founded on the records of natural facts, showing how to apply principle to a concrete case. Prof. Porta is not, therefore, in any sense a duplicate of the observatory of the University of Santa Clara." This strikes us as very reasonable and it leads as irresistibly to the Macbethian system of forecasting of which the first rule is "out, damned spot!" The less Father Ricard has to do with sunspots and the more he relies upon records of storms and current observations, the nearer he will come to hitting off prophecy aright.

Which Kind of a Cow?

Since readers of this journal (page 12, Pacific Rural Press of July 3) have exalted this writer to the semblance of a cow-prophet, we have ourselves to enter the war-zone of prophecy with as stout a heart as we can muster. A reader, whose note shows that he knows cows and is staking his money on them, and cruelly knowing also what mortal risks we run by answering in the public ear, asks us which kind of a tie he shall tie to, in these words:

To the Editor: I wish to put this question up to you. It may be rather a delicate one, for I realize you are strictly a neutral and may not care to give me just the straight-from-the-shoulder answer that I want. If that is the case I will thank you just the same.

The question of taking up the breeding of Guernseys has been debated by me for some time. I have handled Jerseys for the past six years, having been a beef breeder in Colorado previously to that, and have made considerable by selling bulls. At this time it is almost impossible to sell a Jersey bull calf, and they are rather too small to veal. Will the Jersey likely came back to its popularity, or will the Guernseys supplant them largely? I have sold out my Jerseys except eight head, and I have thought it might be wise to buy a few registered Guernsey cows and a registered bull, and that I would lose nothing by breeding my Jerseys to the Guernsey bull. While I admire the Jerseys, yet the Guernsey has pleased my eye more, but have had no opportunity to learn of their actual merits first hand.—Reader, San Joaquin County.

If we were wise as a judge we would look through this case, find a single point on which a decison could be based, and ignore all other issues which are involved. But prophets are not judges now-a-days, and cannot get out of their troubles so easily. And yet, like a judge, we would say, if you like Guernseys best, breed Guernseys: they are the cattle for you. They are like Jerseys in their distinctively good characters; they are larger and coarser than Jerseys; they have perhaps rather a cooler temperament, the cows less flighty and the bulls better natured. Historically they have similar origin, but the Jersey caught favor first and enjoyed it almost overwhelmingly. Afterwards, however, the Guernsey entered the race for popularity and has made commendable progress, though it is still on a stern-chase. Therefore, if you go into Guernsey breeding for the sale of the stock, you will have to undertake vigorous promotion and constant exhibition to secure the popular recognition of desirability which Guernseys need and which Jerseys already possess. If you are simply growing cows for their dairy product, and you like Guernseys and their grades, by all means indulge your taste. Guernsey sires on Jersey cows may be expected to enlarge the offspring and possibly improve their constitutional strength, if you select your Guernseys for size and vigor and not for pedigree alone, and you will not sacrifice Jersey quality and characters, for the Guernsey shares them. Therefore, as a judge, we hand down a decision that you buy Guernseys—the clerk will kindly see that all fees are paid.

What Kind of a Cow?

But, as stated above, the judge's function is to leave as many things as possible unpassed upon, as we have in the foregoing paragraph. There is a broader aspect of the inquiry, which, as a constituted prophet, we cannot neglect. What kind of a cow does the State need? There is only one kind and that is—a better cow. Everyone who has paid any attention at all to the records of the cow-testing associations which appear from time to time in our columns, must know that California cows are getting better in every neighborhood where testing and rejection are practiced, and that the cows which earn the right to live are pure-breds or grades of the dairy breeds. And this will more and more clearly appear as cow-testing is continued and extended. It ought to be more fully realized that any and all good bulls of the dairy breeds can and do lift their female offspring into the profit-yielding, right-to-live class of milkers—therefore, all the dairy breeds can make of all common stock that "better cow" which the State and the owner need. These dairy breeds are all good to use if you wish to rise from a scrub basis. They differ somewhat in size and capacity, in amounts of milk and fat-content thereof, in economical and efficient use of feed, in adaptation to different kinds of land, and all these points should be considered. The conclusion will be that under certain conditions one breed will be better than another, and, as conditions differ, each breed will be preeminently best and to be preferred for something. Therefore, it is rational that we should have insistent advocates of all good breeds and contention that each of them is best. This is the way progress is made. But when it comes to giving the offspring of common cows the profit-right to live, every dairy breed has done it, is doing it, and will always do it in dairy experience. The owner of scrub dairy cows should be like the lonely spinster who went to the woods to pray for a husband. As she closed her petition a great owl cried, "Hoo, hoo?" "Anybody, good Lord," was her meek reply. So every man who owns a bunch of common cows from which he wishes to grow heifers worth having, should watch his chance to get whatever vigorous individuals of pure dairy breeding his money will secure.

The Relation of the Jerseys to the Question.

What our correspondent says about the slack demand for Jersey bulls is true, and in a way it is the most fortunate thing that could happen for those who wish to make better cows. Just at present fashion has run away from the Jerseys as fast as it ran toward them a few years ago. Both fashions were irrational in their excesses. Although there has been much talk about Jerseys being too finely bred and too strongly fed for record connections, rather than for health and production, we doubt if that charge applies at all to the open-air Jerseys of this State. Besides, the Jersey breeders are not the only transgressors along that line—everybody has been doing it and all will recover. The useful fact in this connection is that the present temporary cheapness of Jersey sires is the best thing that ever happened for better cows in California, if owners of common stock will only seize their chances to get into a good game. The Jersey really laid the foundation of dairy cow improvement in California, because it was the Jersey that first and most widely crossed dairy quality upon the common stock of thirty or forty years ago, which was chiefly Spanish crossed on Shorthorn—tending of course toward beef. It would be hard to estimate the value which the Jersey cross has yielded in this State. One can hardly go afield without seeing it. In two counties, which are leading in California dairying, viz.: Humboldt and Stanislaus, Jersey and Jersey

grades predominate, and their owners are convinced that for economical use of feed in the output of butter-fat and for ability to keep busy eating and secreting the Jersey grades are the cows to bank profits from. We believe that bulls of other dairy breeds are worth the high prices they are bringing and their popularity is earned and deserved, but just now the market for Jersey bulls is such that a buyer can almost get in at his own price, and for those who earnestly desire to have better cows but lack means for large investment, the present condition holds out the chance of a lifetime.

A Trick in the Almond Trade.

A trick which is un-Californian in its spirit and unworthy in its motives has just been sprung upon the almond trade, and the ultimate effect of such action should be in some way retributive upon the transgressor. A San Francisco dealing firm has widely circularized the Eastern trade that it will accept orders for almonds at one-half cent per pound less than the price to be fixed by the Almond Growers' Association, whatever that price may be. The offer has a good stout string tied to it, of course, for notice is given that it may be withdrawn and such orders declined whenever the firm sees fit. The purpose is not price-cutting —which is a legitimate enough recourse when a dealer can stack up things to be advantaged by it. The purpose is to throw discredit upon the growers' association, to demoralize the trade and interfere with the honorable and needful effort of the growers to extend the distribution of their rapidly increasing production. In a way it is a token of the success of the growers' association in their distributive work, which is placing almonds in car-load lots in many markets which have heretofore taken only sack-lots from jobbers in larger cities. This is, of course, not to the advantage of the old-line-dealing trade, but it is essential to success in handling the larger product which the increased acreage is beginning to put forth. But, as we understand it, it is not at all the purpose of the association to interfere with dealers or middlemen, but to make them more busy selling almonds by working for greater popular demand which dealers cannot or will not undertake so widely. The object of the association is to sell more almonds—each year more almonds, so that our largely increased acreage may not produce an over-supply. To serve the purpose of this growing industry, both in the prosperity of the individual grower and the upbuilding of the State, these almonds must be sold at a fair profit above the cost of production. This is no necessary part of a dealer's attitude; he is out to sell almonds at a profit, when he is following his legitimate business, and it is no concern of his as a dealer what it costs to produce them, although as a man he may be as patriotic as any other. The association of growers undertakes to supply dealers all they can handle and help them to handle more and more, and continuously to get more dealers to handle more almonds, but the price must be fair to the grower under the conditions prevailing. When, then, a dealer tries to place a bomb under this beneficent institution, in the form of a sensational gambling announcement, merely for the purpose of discrediting the growers and demoralizing the trade, so that he may run away with something from the wreck which he tries to create, he is bringing disgrace upon legitimate trade and is trying to betray the State. The lesson to growers in the working of the disgraceful trade trick to which we allude, is very clear. It should convince them that it is essential for them to enter more widely and strongly into the support of an organization of men of their own producing class, which is working constantly and successfully to open new outlets and multiply demands for their product, at prices which will fairly reward them for their investment and labor. If growers are to realize anything from their rapidly increasing output, they should stand solidly against all dealers' tricks and not be upset by them. They need not fear legitimate dealers' interests; they can all be advantageously used, probably, in the distribution of the product. But when a dealer circularizes the trade with a stringed offer to cut a price before any price has been fixed, and before he can possibly know whether such a price is warranted by conditions or not, it is not even fair gambling or speculation; it is a trick to befuddle and destroy, which even its originator should be ashamed of.

Queries and Replies.

Querists must give name and address.

Roots of Swiss Chard.

To the Editor: We planted some Swiss chard and it has grown like a house on fire, and is wonderfully pretty to look at. I have cooked it like spinach, in its own juice, also with pork, and both are nice, but what can I do with the roots? They taste splendid raw. I am cooking for ten people, and have tried lots of recipes out of your paper, and they are good.—The Cook, Lemoore.

It has been one of the supreme efforts of our life to keep on good terms with the cook and we are grateful for this token of success. Swiss chard is simply a beet which has been developed for esculent foliage and leaf-ribs and stems instead of for esculent roots, as other varieties of the same plant have been. Naturally a plant is best in those uses for which it has been developed by generations of selection and effort. Therefore if you get top growth good for eating in a chard you should be content to throw the root away—just as in a beet you throw the top away when you use the root. The chard root is manifestly inferior to the beet root. Still if your conscience pricks you for throwing it away, just boil up a lot of the roots in your beetingest style and watch through the crack of the door what your ten boarders do with it. Cooks have done that before: it is perfectly legitimate research work in cookery. In our records from countries where chard is most largely grown we do not find mention of the culinary use of the root. It is just possible that superior growing conditions in California may cause the plant to make a better root here than elsewhere.

Treatment of Walnut Grafts.

To the Editor: I have some black walnut trees which were grafted to English walnuts this last March. The grafts are growing so rapidly that I find it impossible to keep them staked. Would you advise cutting them back? If so, how much?—J. E. B., Durham.

It is of course better to top-off the graft than to have it blown out, and in grafting on old stumps it may be desirable to cut back the growth for two years or more until the healing tissue at the graft has a chance to harden and strengthen well. Where the growth is not very heavy it can often be sufficiently supported by nailing two or three laths around the old stump, allowing these to extend say two-thirds of their length along the grafts and tying around laths and grafts with bale rope. In supporting tall growth from grafts in young stocks, both stock and graft can be tied to a good stiff stake. It is not necessary to have the stake chase the new growth. If you can get one strong tie around the stock and two ties around the graft, it will sustain the joint well and the newer growth above can take care of itself, if all is stiff and strong below. Young grafted trees should be allowed to run out long growth to get sufficiently high heading. Laterals usually appear plentifully the second year and can be used in shaping the tree. If, however, such treatment seems to be too much trouble or expense, protect the joint by cutting back above to check the run-out. This must be according to judgment: there cannot be any particular rule about it.

Bermuda on Reservoir Bottom.

To the Editor: I have a reservoir covering an acre which has a complete sod of Bermuda grass in the bottom. What would your idea be of the most practical way to get rid of it? Could it be done with distillate?—Subscriber. Kern county.

Do you wish to remove the Bermuda so that you can work the soil bottom to make the reservoir hold water? If so, under-cut the sod with a weed-knife or flat-tooth cultivator, dry-rake into windrows and burn and then get on with your harrows, clay, sheep, etc.—whichever you choose to use to puddle the bottom. If you wish to kill the top-growth, distillate will do that but it will not get to the bottom of the Bermuda. It will come up again when it gets ready, providing the surface has air and light. But if it is simply a question of killing the Bermuda on the reservoir bottom, why do you worry? Fill the reservoir and that will settle it. Bermuda is not an aquatic plant. It will probably climb out over the banks but that will not be a bad idea: it will keep the banks from washing.

Olives on Check Borders.

To the Editor: Do you think it would be practical to plant olives on alfalfa borders here? The soil is gunshot-sand and seeps freely. Borders are 2 rods apart.—A. T., McFarland.

If the soil is deep and open so that surplus water will sink and not stand and the levees are not high enough to dry out too much, the olives will be all right. If they have to grow in mud puddles or to be stranded on high, dry and weedy levees, they may not amount to much. It all depends upon whether the trees get enough and not too much water.

White Gnat on Beans.

To the Editor: For two years I have been annoyed with a sort of small white gnat with wings, that completely destroy the bean vines, and so far have been unable to kill them in any way. Would you kindly advise me of some way to destroy them.—Subscriber, St. Helena.

We can only make a rough guess at what you have. Why did you not send specimens? There is a "white fly" (Aleyrodes) which often attacks beans, and it can be killed by good spraying with kerosene emulsion or tobacco extract. But how can we tell whether you have this pest or some other?—Editors.

Fruit Crop Prospects Reduced.

[Written for Pacific Rural Press.]

Fruit blossom estimates of crops have been considerably lowered, as usual and as expected, by the various agents such as frost, wind, wetness, disease, and insects. The season is ten days or two weeks behind, on account of the late rains and cool weather in general all over the State. This was responsible for much injury due to fungi and aphids of all kinds which have been general and are not yet out of the way in some districts.

The shot-hole fungus of which so much was said in regard to the southern Sacramento valley and foothills, has been of general injury to most deciduous fruits, apricots and almonds in particular, with more or less damage to prunes, plums, and cherries. In the southern part of the State they are beginning to think that the so-called shot-hole fungus of apricots was in reality another fungus which causes a thick scab on the fruit.

Black scale has been generally bad throughout the State, though many orchards of southern California where it was especially bad last year, are clean this season, seeming to indicate a natural control. Such natural control has not been found in San Joaquin county, though spraying is effective.

Locusts or grasshoppers are very bad in many parts of the State, especially Imperial valley and north Sacramento valley.

In California, the almonds have been somewhat injured by wind, but in the central part especially by the shot-hole fungus. Red spider has hurt them in the north Sacramento valley, but not enough to seriously reduce the crop.

The production of apricots in California is decreasing, especially those for shipment East, largely on account of the damage due to shot-hole fungus, which a few years ago was found only on light, sandy soil or higher ground, but it has now spread over the lowlands as well. Very little of the injured fruit is shipped, so it has not affected the markets, but it has reduced the amount that could be shipped. A high authority claims this is a good thing because when a great deal over 100 cars per year are shipped East, the prices are lowered beyond the profit line. The same fungus is likely to appear next year if weather is favorable because spores may be seen even now on the trees.

The citrus gray scale which was discovered about seven years ago by Mr. Essig, then a student at Pomona College, and which was fought under county auspices in Tulare county last season against vigorous protests of the growers, is now serious in practically all of the citrus sections of the State, and the growers who protested against fumigation last year are eagerly asking for it now.

In San Joaquin county, the gray fungus which is affecting grapes is also found on their citrus trees. Sacramento county reports a full setting of oranges.

The Tokay and Malaga grape crops for the State are estimated at about 65 per cent. Phylloxera has been spreading very slowly and has not much to do with the reduction; nor has mildew gotten ahead of the growers very much, though in many cases several sulphurings have been applied. Many of the Tokay and Malaga shoots which ordinarily put forth two bunches, this year have only one bunch, and the crop on the old vines is only about 50 per cent of last year; young vines bearing more heavily, bring up the estimate. Emperors are about a three-quarter crop, which is better than the short crop of last year. It is expected that all table grapes will show fine quality. Two troubles in San Joaquin county are responsible for much of the Tokay reduction. One is the gray fungus which weakened the buds early in the season, and it is noticeable that the heavier crops are where a fungicide was applied early in the season. The beetle of the grape root worm has become serious this year for the first time, especially in San Joaquin county.

The 100 per cent olive prospects reported to us at the blossoming time about a month ago are now greatly reduced by non-setting, partly due to starving of the buds by the black scale and partly, as reported from Tehama county, where one-half crop remains, by the damp cold spring followed by three weeks of dry north wind. Sacramento county reports 80 per cent.

Of peaches there is practically a full crop throughout the State. In Placer county the early peaches ripened quickly when the weather warmed up while they were still immature; thus below normal sweetness and size.

The pear crop seems to be less than three-quarters for the State, though early Bartletts are a heavy crop and have been shipepd for nearly two weeks from the Sacramento river section.

Many of the orchards still show "burnt" twigs as the result of neglect of blight, or careless cutting. One large orchardist has had three men busy cutting out blight all winter and now he has one man doing nothing all the time except to keep the newly infected twigs cut out. On account of his care in this respect he has a tremendous crop. Blight, which was alarming in Solano county early in the season, has been well cut out and the situation is well in hand. Thrips were not so bad as feared on account of persistent spraying, but are likely to be bad next year, as larvae are even now to be seen in the trees. Many pears are russetted in Contra Costa, Sacramento, and Solano counties, being worst where the thrips were most numerous. Pear blister mite has done some damage in El Dorado county, while Mendocino reports injury by rain while the fruit was in bloom.

For the State in general, plums are about a 90 per cent crop, Tragedys being rather short but mostly already shipped. Late varieties are a full crop most everywhere. The early ones in Placer county were immature when the warm weather forced their ripening under-size and under-quality.

Prunes in Santa Clara county are beginning to show up to some extent, but even the best crops are lighter than last year. Aphids are still serious. In Tulare and Solano counties, prunes are reported not over 60 or 65 per cent.

Southern California claims full crops of walnuts in spite of the blight being "awful bad" especially in Santa Barbara and Ventura counties. This is possible on account of the tremendous setting. New Humboldt plantings are doing well.

BEARING ACREAGE IN PER CENT OF STATE TOTAL AND PRESENT CONDITION.

Special Reports to Pacific Rural Press from County Horticultural Commissioners, Subscribers, and Our Men in the Field.

COUNTY	Almonds	% of Normal crop	Apples	% of Normal crop	Grapes	% of Normal crop	Peaches	% of Normal crop	Pears	% of Normal crop	Plums	% of Normal crop	Prunes	% of Normal crop	Walnuts	% of Normal crop
Northern:																
Siskiyou			*	80				80		100		100		100		
Shasta		50		50			*	90	*	20		85	*	85		80
Sac. Val.:																
Tehama	*	100	*	50	*		3	75	3	25		75	*	80		
Glenn	*	100		100	*			100		100				100		95
Butte	14	70	*	30		90		85	*	40		70	*	70		
Yuba	*	75	*	100		85		90	*	100	*	100	*	80		
Sutter	9	75		80		75	3	75	*	75	*	75	*	75		
Colusa	4	60				100		60		100			*	100		100
Yolo	12	75			4		*	100	6	70	6	100	2	80		
Sacto	7	85		100	*	65	*	85	22	80	9	80	*	85		
Solano	8				4		3	90	7	60	17	100		60		
El Dor.			*	70		80	*	85	3	65	*	65				
Placer	2		*	90		90	6	100	7	75	40	100		100		
Nevada		100	2	25		100	*	100	*	90		75		90		50
Upper Coast:																
Humb.			*	90				100		100						
Mendo.			*	60		95		50	4	50		80	*	50		50
Lake		75	*	50		100		75	2	85			*	75		100
Sonoma		75	18	75	*		*	100	8	75		90	10	60		75
Napa		100	*	75		90		80	*	50		80	6	90		80
Bay counties:																
Con. Cos.	13	80	*	80	*		*	90	6	65		40	*	60		100
Ala.	*	45			16		*		5	70		80	*	65		
S. Clara			*	70	18		5	85	10	65	19		62	60		
Lower Coast:																
S. Cruz			53	70	4			60		50		75	*	75		
Mont'y		75	9	60	*			60		60		70		90		
San Ben.		100		100	4		*	100		50			4	75		100
S. Barb.			*	100											15	100
Vent.		100			8										18	100
S. Joaq. Val.:																
S. Joaq.	11	75			3		3	100	5	100	2	75	*	30		80
Stanis.	6	100		75	*	75	4	75	*	75	*	100		75		100
Merced		100					2	75								
Fresno		100			9		36	70			4		*			
Kings					4	100	6	100					*	100		
Inyo			*	40		100	*	30	*	50		50		50		
Tulare		90	*	90	*	90	9	100			2	80	3	80		
Kern			*	60	*	100	*	95				85		100		
South. Cal.:																
Los Ang.	4	75	2	100	3	100	*	100		90		95			31	100
Orange				60	4			100				100			35	100
S. Bern'd'o			5	75	4		5	95		50		100		100	*	100
Riverside	2	100	*	65	3	100	*	90		80			*	100		100
Imper.					*	100										
S. Diego			*	25			*	100		25						

Notes: Percentages of bearing acreage taken from State Horticultural Commissioner's report. *Indicates considerable acreage but less than 2% of State acreage.

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Program State Fruit Growers' Convention

The 46th California State Fruit Growers' Convention will be held at Stanford University, Palo Alto, July 27 to 30, and at the Exposition July 31. It will include the first annual meeting of the West Coast Potato Association July 26 and 27, and a conference of County Horticultural Commissioners July 26 and 27 at Stanford University.

Tues., July 27.—7:30 p. m. The outlook of: Pomelo, R. S. Vaile; Prune, E. N. Richmond; Walnut, J. B. Neff; Apple, J. B. Hickman; Apricot, F. B. McKevitt; Peach, F. P. Roullard; Grape, F. T. Swett.

Wed., 9 a. m.—Pear Culture, R. H. Parsons; Control of Pear Blight, E. A. Gammon; Blight Resistant Roots, A. L. Wisker; Pear Outlook, Percy Gammon; Bee Culture, Mrs. H. C. Acklin; Growing Nursery Stock as a Business for Women, Mrs. L. E. Sexton; Developing an Apple Ranch, Miss Vida R. French.

Wed. 1:30 p. m.—Codling Moth, A. L. Melander; Blight Resistant Pears and Pear Stock, F. C. Reimer; Sub-Tropical Fruits of Promise in California, Prof. L. D. Crawford; Grower as Experimenter, E. S. Thacher; Women as Florists, Mrs. Myrtle Shepard Francis; Farming for Women, Mrs. Emily Hoppin.

Wed., 7:30 p. m.—Plant Quarantine Service, C. Gordon Hewitt; Experiment Station Movement in America, S. B. Doten; The Lure of the Garden, Mrs. Myrtle Shepard Francis.

Thurs., 9 a. m.—Almond Outlook, G. W. Pierce; Why I Planted an Almond Orchard, Miss C. A. Whelan; Cover Crops in Citrus Culture, C. S. Vaile; The Interrelation of Soils and Crops, J. G. Lipman.

Thurs., 1:30 p. m. — Automobile trip through Santa Clara Valley.

Thurs., 7:30 p. m. — Birds and Mammals Injurious and Beneficial to the Farmers' Interests (Lantern), H. C. Bryant; The Olive, W. F. Oglesby; Olive Outlook, B. B. Meek

Fri., 9 a. m. — Orange Outlook, J. H. Reed; Lemon Outlook, G. W. Hosford; Composition of California Oranges, E. M. Chace; Co-operation in Fruit Marketing, H. G. Johnson; Careful Handling of Fruit, C. S. Milliken.

Fri., 1:30 p. m.—Uses and Misuses of Infectious Diseases and Insect enemies for the control of Insect Pests, A. W. Morrill; How a Farm Woman Found Herself, Mrs. Emily Hoppin; Proportion Between Hunger and Food Supply, Prof. G. J. Pierce; Eel Worm Parasites on Plants, Prof. Peter Frandsen; Canning and Selling Fruits and Vegetables, Mrs. Sara Roberts; Canning Poultry and Meats, Mrs. Belle S. Corey; Scientific Jelly Making, Mrs. Hilda B. Neilsen.

Fri. 7:30 p. m.—The Railroad and the Potato Industry, W. H. Olin; Citrus Culture, Dean H. J. Webber; Maintenance of Soil Fertility, Prof. W. E. Kelley.

Sat., 7:30 p. m., at Exposition.—Mutual Indebtedness of Science and Agriculture, John M. Coulter; Present and Future Supplies of Commercial Plant Foods, J. G. Lipman.

On the Potato Association program are the following which are open to all interested:

Mon. July 26, 1:30 p. m.—The Tuber Moth in Relation to the West Coast Potato Industry, E. O. Essig; Discussion by representatives from various states; Associations and the Potato Industry, R. W. Faulkner; A New Thrips Enemy of the Potato, D. L. Crawford.

Tues., 9 a. m.—Value of Potatoes as Food, Miss Lillian D. Clark; Seed Potatoes, W. V. Shear; Varieties of Potatoes, Mrs. Hilda B. Nielsen.

Tues., 1:30 p. m.—Need for Experimental Work with Potatoes, E. H. Phreaner; Fertilizing Potatoes, W. Q. Fitch; Fundamentals of Success in Potato Growing, E. H. Grubb.

Tues., 5 p. m.—Discussion of interstate quarantine, for the prevention of the spread of potato diseases, the seed potato problem and the poisoning of the soil by the planting of diseased potatoes. All interested are earnestly invited to be present and take part in the discussion.

Special Meeting, Wed., 5 p. m.—The proposed new State quarantine order, which will set aside the county quarantine ordinances now in force, will be read and discussed. Every nurseryman, county horticultural commissioner, fruit grower, etc., whose work is affected by this order, should certainly be present.

OPTIMISTIC FRESH FRUIT SHIPPERS.

[Written for Pacific Rural Press.]

"We'll all smile when the fresh fruit season is over," says a big fruit shipper. "Good quality fruit has sold as high as ever. California is too big and too diversified to go through any season without some discouraging crops or prices, but she is also too big to suffer severely by whatever low prices or small crops exist this year. There never was a poorer quality of fresh fruit of all kinds shipped East than has been so far this year. It has contained very little sugar and color, and as a consequence has kept rather poorly; but we expect the grapes and late pears to be of fine quality and good price. The trade in the East is looking forward to the appearance of the standardization law when they can depend more on honesty of pack than before, thus reducing risk, uncertainty, and high margin of charges for handling the fruit. Late peaches will not be so low priced as anticipated because the season is 10 days late and Texas peaches will be out of the way when the earliest Elbertas come in. Georgia peaches will be out of the way before our north Elbertas come in."

"Prospects for good prices are poor until along in August," says another shipper. "The East has had the biggest crop ever and it has been good quality, while at the same time the weather has been discouraging to fruit consumption."

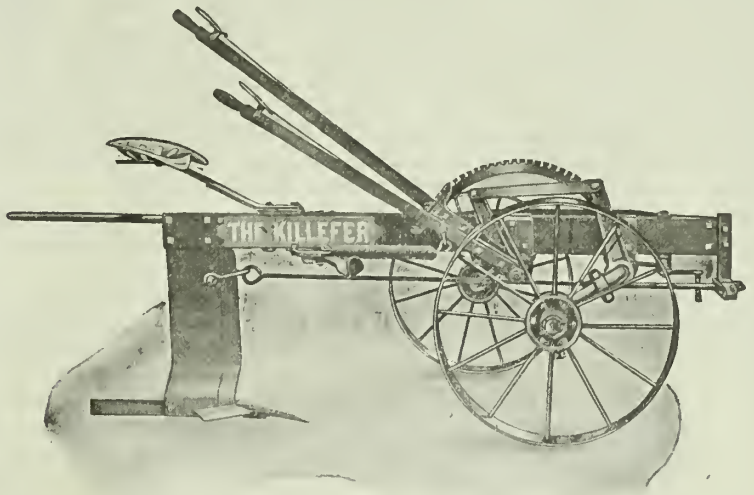
"We have no bumper crops and are shipping little or no bad fruit," suggests another, "so that prices will be better later on. Grapes especially will benefit by the standardization law."

"By our new system of distribution, we hope to have a broker in every small city and spread California fruit more widely than ever before," says another. "If we can sell 75 per cent of our fruit to districts outside the auction cities and thus send only 25 per cent to auction, we will certainly raise the prices there and thus furnish the basis for higher prices f. o. b. In regard to shipping plums, the time is sure to come when the Japanese varieties must drop out. They have a characteristic flavor which is not pleasing to eastern consumers. The East likes European varieties, but cannot grow them very largely on account of curculio which causes the fruit to drop."

One Row Beet Plow

KILLEFER QUALITY

KILLEFER EFFICIENCY



Was designed for the smaller grower where horse power was not available for handling the larger two-row plow. The draft is very light and no more weight has been used than was necessary to give the proper strength.

The axles are large with long wheel bearing. This plow is equipped with a compound lever which enables the driver to level it to any of the irregularities of the ground. At the same time it is only necessary to use the one lever to raise the plow at the end of the row. The compound lever works in connection with a heavy coil spring, which assists materially in handling. The foot lever controls the shifting hitch and is below the frame, making it much easier on the driver than the old style.

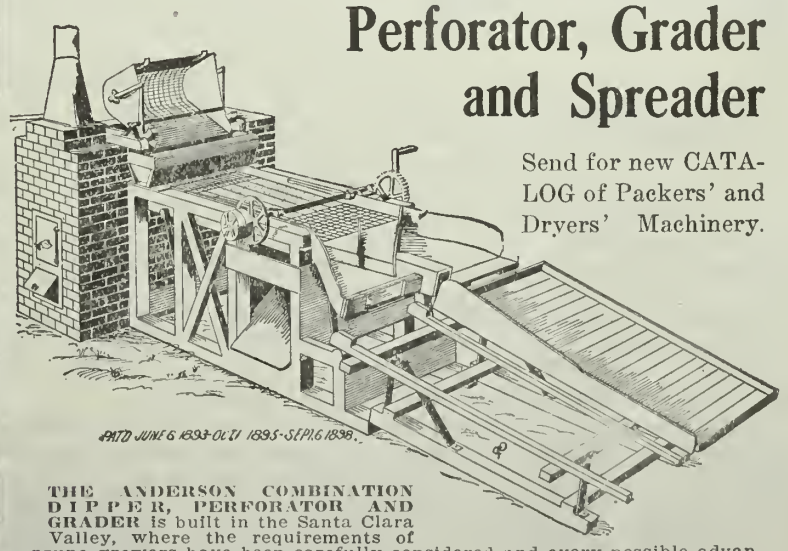
We build this plow with either straight, sloping or bent standards and with any style of wing or point required.

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SEND FOR 1915 CATALOG.

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See our Exhibit in the Palace of Horticulture at the Panama-Pacific Exposition adjoining the Cuban Gardens, which are under the Big Glass Dome.

Anderson-Barngrover Manufacturing Co., 20 West Julian St., San Jose, Cal.

Meeting Foreign Walnut Competition.

[Written for Pacific Rural Press by Carlyle Thorpe, Mgr. California Walnut Growers' Ass'n.]

Many of the California growers have the impression that good walnuts cannot be raised in any other section of the world than here at home. It is possible to raise just as good walnuts in France or Italy as in California.

Our people have perhaps been more progressive in the line of developing new and better varieties of walnuts and of placing them on the market in better condition than do our foreign competitors. In recent years the importers of walnuts have realized the advisability of securing a better pack. They have prevailed upon foreign exporters to ship a more carefully selected grade and the average quality of deliveries of foreign nuts has been improved each season.

The trade generally consider the California walnut the best on the market and are even willing to pay a premium over all foreign varieties for our best grades. This condition will prevail only so long as our growers continue to be leaders in their producing and packing methods, and thus deliver a grade of nuts which our foreign neighbors cannot equal. Being firmly convinced that in the maintenance of the highest possible quality lies the success of the California walnut industry, the California Walnut Growers' Association is spending thousands of dollars annually in the development of better methods in grading and packing its product; and is lending every encouragement to the further development of better varieties of walnuts. We believe that high quality pays better dividends than any other feature of the business.

Growers' Advertised Brand.—The California Walnut Growers' Association, early realizing the importance of maintaining a uniform high quality, adopted the Diamond Brand, under which only selected goods would be shipped. Owing to our rigid insistence that only the best nuts be packed under the Diamond Brand, we have developed a demand for our goods far in excess of our expectations.

Our shipments have now become completely standardized. We can and do guarantee to our customers a high quality by naming a fixed cracking standard each season; we guarantee against shrinkage on arrival; we guarantee the sizes of the various grades; and have adopted many other uniform provisions—thus eliminating the hazardous risks formerly prevalent in the business. We employ a corps of inspectors who carefully examine and make a cracking test of each shipment before it is permitted to go forward; and the grading and other equipment in the nineteen packing houses from which we ship has been made as near uniform as possible.

Holiday Advantage.—The average consumption of walnuts in America during the holiday period, October, November, and December, is thirty-seven to forty million pounds. The strongest demand for walnuts is for early October shipment. The trade in this country insist on securing their deliveries in ample time for distribution for the Thanksgiving trade. Even in normal times, few, if any, foreign walnuts can possibly reach America for the Thanksgiving trade. This year, the European countries producing walnuts being at war, with much of their labor fighting, their railroads in the hands of the military, and trans-Atlantic steamship service more or less demoralized, it can hardly be expected that walnuts in quantity from Europe will arrive even in time for the Christmas trade. Seldom do over 20 per cent of the so-called Manchurian walnuts reach America in time for the Christmas trade. It can readily be seen that the California growers have a decided advantage in being the first on the market with their product.

It should not be inferred from this that record-breaking prices will prevail. If the crop develops in harmony with present indications and with the present almost unanimous sentiment of the growers in favor of an immediate cleanup without a carry-over, prices must necessarily rule at a figure which will show all handlers of our product a reasonable profit and one commensurate with their efforts to push a larger-than-usual volume of walnuts into the hands of the consumers during the two or three months around the holidays.

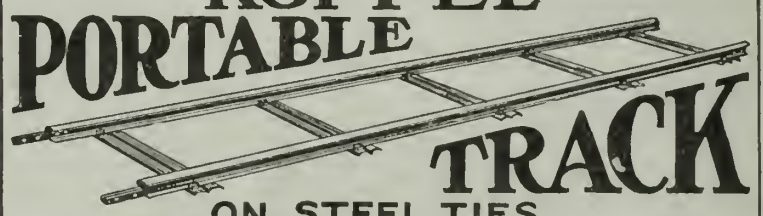
The trade in this country well know the comparative value between California walnuts and the various foreign varieties. With the annual consumption of walnuts in this country averaging about sixty million pounds, there will always be a good market for every pound of high-class walnuts grown in California. The principal competition is the French and Italian and the so-called Manchurian walnuts in the order named. The Italian walnut known as the Sorrento variety is undoubtedly our strongest competitor in quality, but the available quantity is comparatively small. France ships by far the largest quantity of any foreign country, their imports usually about equaling the total California crop. There are no walnuts grown in Manchuria, the so-called Manchurian walnut being produced mainly in the Shantung province of China proper. The better varieties of these are cultivated, but the poorer qualities grow in a semi-wild condition. As a general rule the Manchurian walnut does not displace to any perceptible extent the better grades of California walnuts, the market for the Manchurians usually finding an outlet which it would be impossible to develop for our line.

Excessive Prices Curtail Consumption.—Summing the whole foreign competitive situation up, it is safe to say that as long as the California growers continue to develop their quality and pack to the extent that they can maintain the leadership in quality, there will always be a ready market at fair prices for the entire California production, but let us not forget that excessively high prices certainly curtail consumption as is evidenced by the decrease in consumption of about 33 per cent during the season 1914-1915 over the few preceding years. Growers will therefore do well, in forming their idea of prices, to consider carefully the probable outturn of the California crop, the competition to be reasonably expected from abroad and the purchasing power of the ultimate consumer.

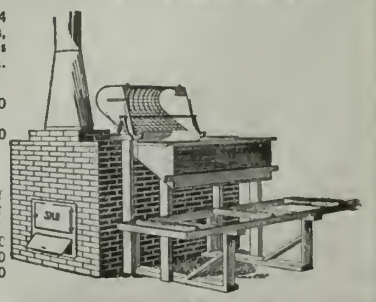
BORAX FOR LEMONS.

Answering several inquiries, no one in our office has ever heard of using borax to cure lemons. C. C. Teague of the Limoneira Ranch writes he has never heard of curing lemons with borax.

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8-lb. steel rails, 7 cts. per foot.

SMITH MFG. COMPANY., 200-224-226 THE ALAMEDA, SAN JOSE, CAL.

Lemon Shipments Increased.

[From Citrus Protective League, Los Angeles.]

The remark is sometimes made that the consumption of lemons has been nearly stationary during recent years. The data below, however, show that the 1914-15 estimated supply of 156,889 tons exceeded the average supply during the five years 1900-1904 by 49,519 tons, or 46.1 per cent. This increase in the supply during about fifteen years is equal to about 3,300 carloads of 30,000 lbs. each. The proportion out of the total supply which was shipped from California increased from 26.7 per cent in 1900-04 to 48.5 per cent in 1914-15.

For the information of our members we have brought together the following data showing the supply of lemons in the United States for three 5-year periods and estimated supply for 1914-15. The years end June 30.

5-year avge.	Imports tons	Calif. shipments tons	Total tons	Pct. increase over last 5 years
1900-04	78,750	28,620	107,370	
1905-09	74,531	52,963	127,494	18.8
1910-14	80,942	63,812	144,754	13.5
Year 1915-15	80,803	76,086	156,889	8.4

PRUNE GROWERS' COMMITTEE.

The inability of some growers of apricots to dry their products has led a few of them to sell green at prices lower than seems justified. Indications are that when the crop is harvested there will be an active and continued demand for good quality dried apricots. One member of the committee already has inquiries for many carloads of dried apricots for France, although those interested in bearing the market insist on Germany being the only available outlet.

In regard to prunes we can see no reason for changing our previous estimates of production. As to prices and market conditions we desire to reiterate our previous statements as to short selling by certain packing interests and the need there is for the growers, as a whole, to continue to hold firm for a living price. It is with pleasure we note the almost universal determination of the growers to hold for the 5c basis which they feel to be the lowest price at which this season's crop should be sold.

We desire to state that inquiries are coming in from buying sources for prices and terms for shipment to England and France to such an extent as to show that the claim as to inability to export is false.

Do you realize, growers, that it would take only 4 or 5 ships of ordinary cargo capacity to carry to Europe the entire share of our prune crop which it is advisable to sell to Europe? This seems to rather turn the light of ridicule on the statements as to inability to export.

I. H. BONE, Chairman,
H. H. SHELLEY, Sec'y.

ORANGE TREES UNTHRIFTY.

To the Editor: The new leaves on my orange trees that came out in the spring are curled. Does the fruit drop more when the trees are young? My trees are five years old. I have not gotten any fruit worth speaking of from them so far. I have two trees that did not put a new growth. One had quite a bit of bloom, but they did not mature and now both trees look as if they are going to die. Do you think nitrate of soda would bring them out?—Subscriber, Exeter.

[Dig two or three holes close to your trees about 3 feet deep and if you find much marly or limey substance, that is probably the trouble. If not, and if the soil is well drained but not dry, we would try nitrate of soda or stable manure. Notice whether there are scales or other insects on the twigs or leaves. The drop is not heavier on young trees than older.—Editors.]

WANTED!

Myrobolan or Cherry Plums

Will buy in large or small quantities. The Plums to be used for seed and can be accepted in any condition just so the seeds are intact. Reasonable prices offered. Communicate at once with **Box 91, Loomis, Cal.**

WESTERN CITRUS AUCTION.

In regard to selling citrus fruits at auction in the West, C. C. Teague of Ventura county mentions the following points: It is largely the greatly increased production that has taxed the marketing facilities for citrus fruits and has, therefore, stirred up more or less dissatisfaction with the existing market facilities.

It is this same large production that would prevent the eastern buyers of citrus fruits from going to the expense of maintaining agencies in California to buy the fruit and then undertake all the risk of transportation, and eastern weather which might discourage the consumption of fruit. Rather than undertake such expense and risk, they would sit back, and pretty soon independent shippers would be shipping their fruit to them on commission and then the market would be broken.

Moreover, under conditions of such heavy production, it is vital to the industry to use every available means of placing the fruit in the consumers' hands and stimulating consumption. The organized growers to whom the increased consumption of oranges and lemons is vital, must put out the necessary efforts to distribute the fruit economically to every available market and to stimulate the consumption. It doesn't make so much difference to the dealers, and they naturally would not push oranges into consumption with enough vigor and persistence.

AVOCADO OR AHUACATE?

Avocado growers have organized into the "California Ahuacate Association." In answer to our question reagrding the name, Acting Secretary H. W. Hazzard of Los Angeles writes:

"Aguacate is the Spanish Royal Academy's adoption. Our word is nearer the original Aztec in spelling and gives us the same pronunciation as the inhabitants of the countries in which the fruit is now of such vast importance as a food.

"Ah-ua-ca-te is the phonetic spelling of a name that has a legitimate ancestry. Avocado is not a name but the past participle of the verb 'Avocar,' not applicable as the name of the most valuable food product of the soil."

A well known fruit grower of the San Joaquin writes us in this very appreciative way: "I venture to say that I consider the Rural Press the best edited agricultural paper in the United States. Your advice and suggestions from time to time are timely, practical and sound."

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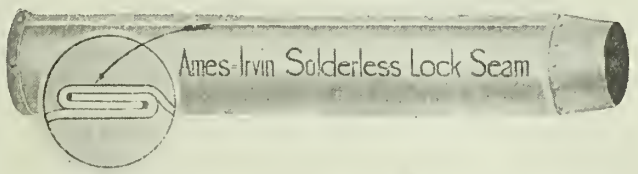
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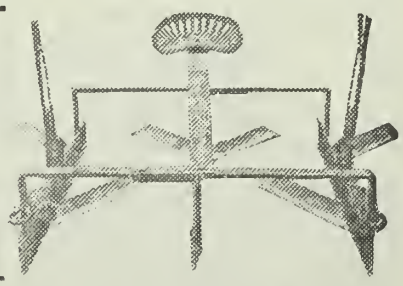
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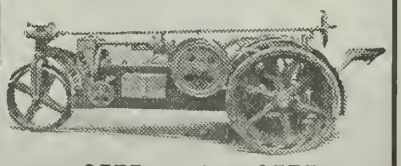
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DEEP WELL ORCHARD PUMPING.

[Written for Pacific Rural Press.]

Jos. Wolf of Santa Clara Valley irrigates 27 acres of fruit twice a season and supplies water for several of his neighbors, some once and some twice per season, with a 12 h.p. gasoline engine and a Pomona deep well "10 h.p. head" pump. The well is 206 feet deep and 12 inches in diameter, having a casing all the way down which is perforated at the different water-bearing strata. The pump reaches down 168 feet, but the water level is so constant that only an 83-foot lift is required at any time. Mr. Wolf has run the outfit a week, day and night, without stopping, but there was no difference in the water level.

"If I had an electric motor instead of a gasoline engine, I could lie down and sleep by it, for the deep well pump makes no noise at all." Everything about the pump runs on wheels and the whole thing stands on a solid concrete foundation. When running full capacity, it delivers 300 gallons per minute; but it is usually run only about 260, because slow motion as a general rule is beter for machinery. When one of the plungers is rising slowly with a load of water, the other plunger is descending inside of it and enough faster so that it fills up again before the first plunger has reached the top, rising again while the other descends, thus delivering a practically continuous stream of water.

"When I was paying 8½ cents for distillate," says Mr. Wolf, "it cost 90 cents to run the engine and pump 10 hours, plus 35 cents for lubricating oil. I am getting distillate now at 6 cents. The pump complete and set up cost me $950. I would much prefer a 260-gallon stream to 800 or 1000 gallons. I observed one of my neighbors last year rushing through his irrigation because he thought it was too expensive to buy water, while another one divided a stream of 300 gallons a minute into two checks at a time to get a very slow stream and thus soak in lots of water. There is no use taking the trouble and time to check for irrigation and then get on only half enough water, just because it costs less."

TRACTOR POINTS TO LOOK FOR.

[Written for Pacific Rural Press.]

"No tractor so far as we know includes all the points mentioned below. However, each buyer will have to select the one that is most suitable to his particular class of work.

Gearing. — "The most common method of transferring the power from the engine to the draw-bar is through a clutch and a set of gears and differential to the wheels. In order to start your tractor, you pull out your clutch and put the proper gears in mesh and then gradually pull the clutch back and you start off slowly. In this type, the change gears either slide on a shaft or else are operated by means of a cam.

"With the sliding transmission you simply release your clutch and slide the proper gears into mesh and when you let the clutch back you start off at the proper speed. To facilitate the meshing of the gears the teeth of the gears are beveled so that they will mesh easily. This is the most suitable type where you require a large range of speed. Bear in mind that in all tractors the engines run at nearly a constant speed.

"With the planetary type the gears are always in mesh and you obtain your change of speeds by simply stopping one unit of the transmission. No gears to change and you avoid the chance of breaking gears that might happen in the other types if your clutch might be dragging. This type is the simplest of all to operate.

"For quick turning and handling heavy loads you can do away with the differential and in its stead use two extra clutches, one on either side. This enables you to stop one side of your tractor and let the other go ahead. There is one type that not only stops one side of the tractor as above but in addition can reverse one side, thus you are going ahead with one side and backward with the other. This requires a double planctary transmission, one on either side. These tractors can spin around like a top," says G. W. Gibson of Colusa county.

Most Direct Drive.—With a given horse power in the engine, a tractor delivers greater or less power at the drawbar according to the number of gearings used between the engine and the actual driving wheels. All machines must be high enough from the ground to ride over uneven surfaces and high ridges in the road, so it becomes necessary in many machines to transmit this power to the

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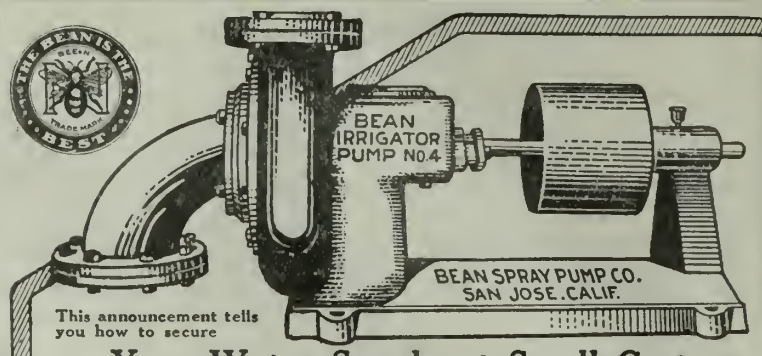
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The Bean Automatic Water Balance eliminates end-thrust, thus saving much trouble.

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Bean Runners are Enclosed, accurately machined and perfectly balanced. This means greatest possible efficiency.

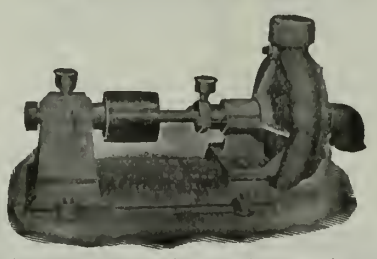
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THE WINSBY PUMP

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GENERAL OFFICES AND WORKS: OAKLAND, CALIFORNIA.
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Improved Fruit Pitting Machines



Capacity:

APRICOTS, 1 ton per hour.

PEACHES (freestone), 2 tons per hour.

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Kirstin

One man stump pullers cost less, weigh less, more power, 4 variable speeds, ten year service guarantee with every machine. CATALOG FREE

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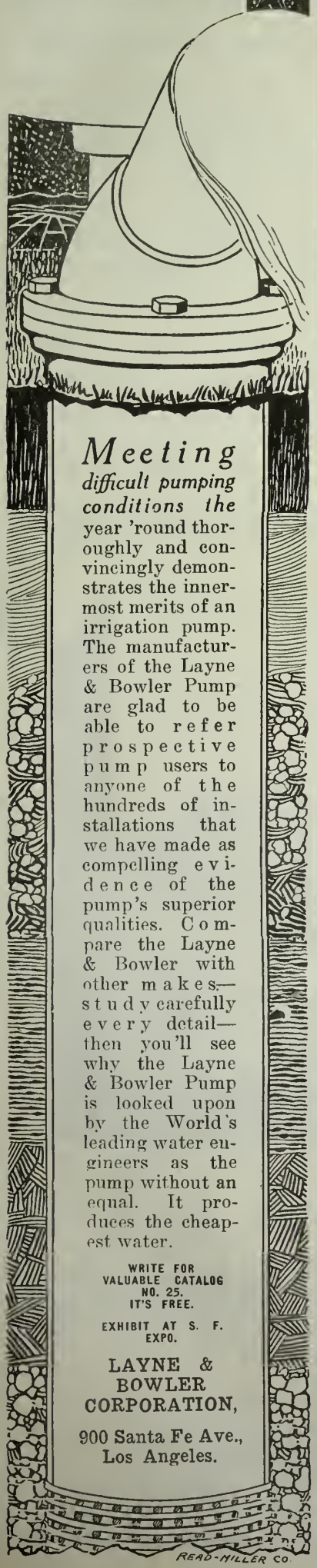
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Be sure and see these interesting exhibits. All sizes and styles shown. Write for free pump catalogs.

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Meeting difficult pumping conditions the year 'round thoroughly and convincingly demonstrates the innermost merits of an irrigation pump. The manufacturers of the Layne & Bowler Pump are glad to be able to refer prospective pump users to anyone of the hundreds of installations that we have made as compelling evidence of the pump's superior qualities. Compare the Layne & Bowler with other makes—study carefully every detail—then you'll see why the Layne & Bowler Pump is looked upon by the World's leading water engineers as the pump without an equal. It produces the cheapest water.

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READ-MILLER CO.

wheels through a series of gears or chain sprocket wheels. One tractor minimizes this and claims to deliver 16 h.p. from a 30 h.p. engine by running the driver shaft direct to the track, raising the returning part of the track high enough to run over it without any secondary transmission. Another machine which uses a chain and sprocket in order to deliver the power from the engine down to a driver gear running close to the ground, is claimed to deliver only 14 h.p. from a 30 h.p. engine.

Soft Ground.—The amount of ground on which the weight of the machine actually rests determines largely its ability to plow soft land, patches of which are found on most any farm even when plowing in general is good. The weight of track types does not rest on the entire space on which the track rests, but mostly on the space directly under and between the wheels on which the weight of the machine rests, and which run on the track. In the round wheel types the bearing surface is increased by additions to the width of the wheels and by contrivances such as grousers or open work permitting the wheels to engage more dirt. The more surface the engine rests on, the less pressure per square inch.

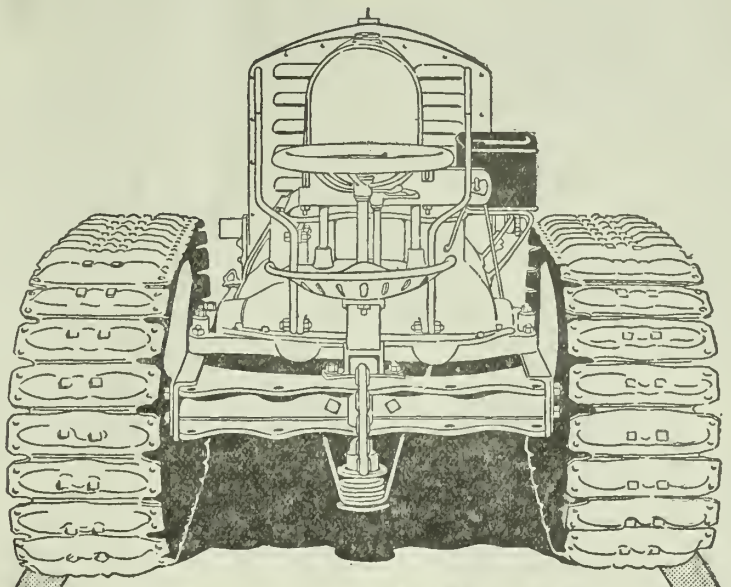
A machine in which the power is delivered to the tracks by means of a driver of large diameter delivers less of its engine horsepower to the drawbar than one whose power is delivered by means of a driver of smaller diameter; on the same principle that it is easier to lift a shovelful of dirt by taking hold of the handle close to the shovel than it is by taking hold of the end of the handle.

Oiling, Vibration, and Highway Damage.—Oiling systems also must be considered when selecting a tractor. A machine whose working parts are open to dirt or are so tightly closed that inspection and reoiling are difficult and are likely to be neglected when needed, would be an unsatisfactory type unless other points in its favor are included. One machine puts all of its transmission into an oil-tight steel box and fills that box with 185 pounds of cup grease and 10 gallons of good lubricating oil. The transmission churns this mixture into a thick, creamy fluid which retains its lubricating ability for about a year. Such an arrangement avoids the necessity of worrying about dirt getting into it or about its getting dry. Annual cleaning and refilling are not likely to be neglected. Force feeds of various kinds are to be commended.

The absence of vibration when the engine is running but the machine is standing still is pointed out as a distinct advantage by C. J. Johanson of Madera county, because excessive vibration loosens bolts, causes extra wear on revolving parts and when anything becomes loose, hastens destruction.

Use of a machine on a highway is sometimes forbidden because of its cutting them so badly. It is desirable to provide against this contingency also when purchasing a machine if it is likely to be used that way.

The total arivals of hay at San Francisco for the week ending July 10 were only 3100 tons as against about 4500 tons each week for the last few weeks.



simplified control

Simplified control—everything at the operator's finger-tips—so easy that a twelve-year-old boy can handle a Yuba Ball Tread Tractor as effectively as a man.

No need to throw all your weight onto a lever to shift gears or throw in the clutch. No snap and bang as the lever goes over. Every operation is performed quickly, quietly and easily as in a high-grade automobile.

Either the hand or foot throttle is used to regulate the speed of the motor. A set spark is used.

THE YUBA BALL TREAD TRACTOR

Only two sets of gears are used for speed—high and low. Gears are shifted by a handle on the transmission case directly in front of the seat.

Each tread is controlled independently. The levers on either side of the steering wheel send the tractor ahead when shoved forward. Pull them to the rear and the tractor is sent backward.

The Yuba Ball Tread Tractor steers as easily as an automobile. No worm gear is used.

It takes but a few minutes to learn how to operate it.

There is a booklet describing the rest of The Yuba Ball Tread Tractor.

THE YUBA CONSTRUCTION CO.

433 California Street San Francisco

Dept. C-24

Works, Marysville

General Agricultural Review.

GRAPES AND SMALL FRUITS.

On July 7 Brawley shipped the first Thompson Seedless grapes to the Chicago market.

Large shipments of Himalaya berries are being made from Greenfield, Monterey county.

It is now unlawful for any one to sell raisins unless the variety of grapes from which the raisins are produced is marked conspicuously on the package.

That the demand for ralsins this fall will equal that of previous years is the opinion of Wylie M. Giffen, president of the California Raisin Company, as a result of investigations on a recent trip East.

DECIDUOUS FRUITS.

A shipment of 8 cars of canned fruit was made by Libby, McNeil and Libby from Selma July 10.

The first full carload of fruit from Auburn was shipped by the Producers' Fruit Company July 3.

The first Bartlett pears this season shipped from Loomis by the Earl Fruit Company, left there on July 1.

Canned prunes and canned olives are being quoted this year for the first time in the standard list of the California Fruit Canners' Association.

Civil service examinations for packed-apple inspector at Watsonville in accordance with the apple standardization law recently approved, have been called for July 21.

A fruit grower of the Berryessa district in Santa Clara valley says that two-thirds of the apricot growers in his section are holding apricots for 8 cents in spite of the fact that they have gone down recently.

A tax of ¼ cent will be levied by the California Green Fruit Association on each package of green fruit sent out by its members this season. The money obtained will be used to promote their common interests.

To devise means of enforcing the new standardization law, which becomes effective Aug. 9, horticultural commissioners from four counties adjoining Fresno have been asked to meet at Fresno to confer with the green fruit packers.

Bartlett pears have been shipped from the Sacramento River district since early July. They were going forward surprisingly green, but will probably at least soften on the way, though development of flavor and sweetness is rather unlikely.

On account of the prevailing cool summer delaying ripening, green fruit packing houses are having a most peculiar season. The Visalia canneries were scheduled to open July 15, but the date has been postponed to July 20 or 21, the latest date of opening in the history or the county. The Stockton cannery will soon begin canning peaches.

"There is absolutely no sense in selling dried fruit before it is dried." said a fresh-fruit shipper recently. "The dried fruit operators could and ought to co-operate to the extent of holding up the prices on dried fruit to a level where the growers would get a fair return, the packers would get a fair profit, and the consumers would not be called on to pay enough extra price to influence the consumption. It is a certainty that consumers' prices will go up; if not in this way, then because producers will drop out of the game until scarcity raises the prices; so shippers might better co-operate and hold the prices up before such disaster happens to many of the producers."

OLIVES AND NUTS.

An official statement has been made that the total olive crop in Spain was 1,302,500 tons, or about 200,000 tons less than 1913.

J. B. Neff of Anaheim was a caller this week. He reported the blight as being very bad in the walnut groves; but in spite of that, the crop would be much larger than last year.

Fifty-five thousand olive trees is the estimated planting done in Butte county this year, according to County Horticultural Commissioner, Earle Mills.

The organization of a state-wide Olive Association has been completed and now a far-reaching campaign for membership will be launched. Officers are: President, John J. Avis of San Francisco; Directors, A. B. Miller of Fontana, W. P. Hammon of Oroville and F. B. McKevitt of Sacramento; Director of Exploitation, Geo. C. Mansfield of Oroville; and Secretary, E. L. Underhill of San Francisco.

MISCELLANEOUS.

On June 6 the earnings of tolls for the use of the Panama Canal passed the $4,000,000 mark.

A farm bureau with thirty members was recently established in the Buena Vista district of Nevada county.

Placer county will have a farm adviser within a very short time, the necessary appropriation having been voted by the Supervisors.

A shipment of about 3000 cases of canned fruits and vegetables was made last week by the Central Califoria Canneries Company of Sacramento to London.

Sacramento will shortly be visited by Roy M. Hagen, agent of the U. S. Dept. Agr., who is here in the interest of the movement to establish boys' agricultural clubs in the schools.

Twenty-eight hundred dollars has already been subscribed by the citizens of Redding for the Northern California Exposition to be held in September. Lassen and Modoc counties may join.

Governor Johnson recently signed a bill which appropriates $4000 for the construction of buildings on the lands of the agricultural experiment

Kill Morning Glory

NOXIOUS WEEDS AND INJURIOUS INSECTS



Use NONPAREIL

Used and recommended by the largest berry-growers in the State and many of the horticultural commissioners. The growing season is the time to apply NONPAREIL. Send for booklet P, which gives full particulars and prices. Very low rates in drums and tank cars.

For sale by all dealers.

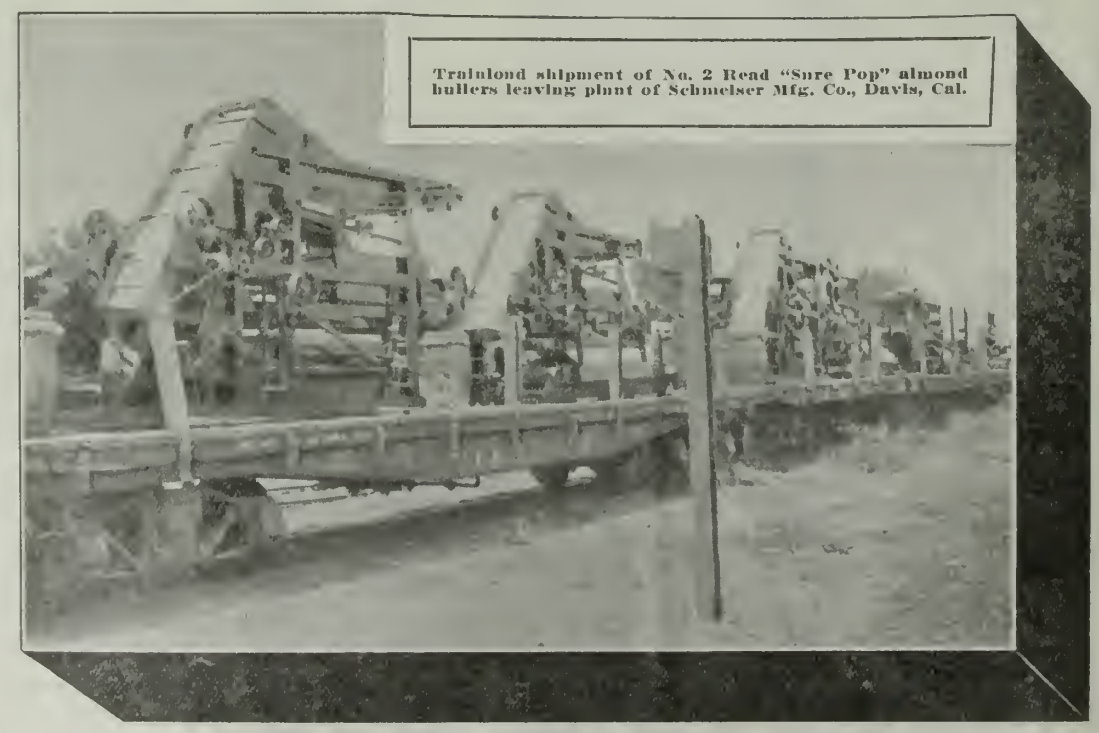
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"California Garden Flowers"

$1.50 Postpaid. Pacific Rural Press

ATTENTION! ALMOND GROWERS



Trainload shipment of No. 2 Read "Sure Pop" almond hullers leaving plant of Schmeiser Mfg. Co., Davis, Cal.

Reports show excellent prospects for a better than normal crop of almonds this year and we are already feeling the effects of this news on our sales of

READ "SURE POP" ALMOND HULLERS

which we manufacture. At the last minute there will be a rush as usual and every one will want immediate shipment.

ARE YOU GOING TO BUY A NEW HULLER?

There is so much money tied up in complete machines that we will not finish them except on order, but we are in a position to assemble on reasonably short notice. WRITE AT ONCE for our terms and your letter will be given prompt attention. Our suggestion is that your order be placed early so that you may be sure of delivery on the date you need the machine.

PRICE LIST AND CAPACITY.

No. 1—2-3 tons capacity, $1250.00 f. o. b. Davis.
No. 2—1½-2 tons capacity, $750.00 f. o. b. Davis.
(Special picking arrangement in tailing spout, $50.00 extra.)
No. 3—¾-1½ tons capacity $100.00 f. o. b. Davis.
(Note: No. 3 is a hand machine but can be operated by motive power. It has no separating attachment, consequently the sorting must be done by hand.)

SEND FOR PARTICULARS AND ANY OTHER INFORMATION.

SCHMEISER MANUFACTURING CO., Davis, Cal.

station of the University of California in Imperial county.

The University of California has appointed C. J. Williams to assist Farm Adviser Lyons of San Joaquin county. Attention to the boys' clubs, three of which are organized in that county, will be the particular work of the assistant.

Three boys' agricultural clubs are now flourishing in San Joaquin county; one at Lodi is raising potatoes, using the best methods, one at Stockton is doing likewise; and experiments in popcorn raising are being made by the Ripon club. The University of California will pay all the expense for a trip East shortly before Christmas for the boy in each club getting the best results.

John Westall of Riverside has been appointed Sales Manager of the newly organized Turlock Merchants' and Growers' Corporation. He is president of the Interstate Fruit Company of Riverside, handling citrus fruits. The fact that the navel season is now over makes it possible for him to take up his new duties of handling the cantaloupe sales for the Turlock growers.

GRAIN AND FIELD CROPS.

Merced is reported to be sending out 25 carloads of tomatoes weekly.

The grain and hay crops of the Salinas valley are larger this season than any previous year.

That the Yuba county rice crop will have a gross valuation of $240,000 is the estimate made by County Horticultural Commissioner G. W. Harney.

The first watermelons left the Alta district of Tulare county on July 9. The acreage is under the average, but with prices good, growers expect a good season.

The acreage planted to sugar beets around Salinas this season is very large, and a record-breaking tonnage is expected. Harvesting, will commence two weeks earlier than usual.

Grain crops are almost all harvested and reported generally as being nearly full crops. In Kern the wheat was light on account of rust, and some other counties report short crops on account of short acreage. Much grain has been cut for hay.

Wire worms have damaged beans greatly in districts around Davis, Oxnard, and elsewhere. An extra acreage of beans has been planted in Yuba and Sutter counties, but in Colusa the slow receding of the floods has prevented as much as usual. Humboldt has a small acreage doing well as inter-crop with the walnuts.

Cantaloupe shipments from Brawley are being made under the supervision of a representative of the Office of Markets of the U. S. Dept. Agr. in co-operation with the distributors of the Imperial Valley. Systematic distribution is being made by the Government representative and his 40 assistants who keep in direct touch with all markets by means of daily telegraphic reports, thus preventing the shipment of melons to markets already sufficiently supplied.

EXPOSITION EPITOMES.

How the Panama Canal will help our trade with Central and South America and Europe will be discussed at the Convention of the American Economic Association to be held at the Exposition August 11-13.

The 69th annual convention of the Delta Kappa Epsilon Fraternity will be held in San Francisco July 12 to 20. Admiral Robert E. Peary will tell why he planted the D. K. E. flag at the North Pole.

The Pan-American Road Congress will be held in San Francisco and Oakland September 13-17.

On August 11 the Woodmen of the World will celebrate their day at the Panama-Pacific Exposition.

The Ninth International Purity Congress will be held at San Francisco July 18 to 24, the white slave traffic and public vice being the main topics to be discussed.

The wonderfully artistic Exposition, with its many magnificent buildings and palaces, and its extensive gardens and lawns, has never been more beautiful than now. The advancement of summer has given added brilliance to the great flower beds; new flags and banners stream gaily in the wind, and the weather is ideal for the full enjoyment of this greatest achievement of man's genius.

It is estimated that nearly 200,000 people attended the Fair on July 5. This is the greatest attendance since Opening Day, Feb. 20. The Fair is half past, and over 8,000,000 have passed through the gates. Average daily attendance since opening has been 56,240.

Colonel Roosevelt will be at the Exposition on July 21, which will be "Roosevelt Day."

VITICULTURAL CONGRESS.

The International Congress of Viticulture met at the World's Fair Grounds this week, having a small attendance, largely of wine makers, to whom the program was especially addressed.

Among the subjects other than wine-making were those of insects and diseases of vines. Following are some of the points brought out:

Lime sulphur used in vineyards must be used alone on account of injurious chemical combination, which does not occur when paste sulphur or other forms are mixed with other spray materials.

The quarantine in California against grape cuttings on account of phylloxera is unnecessary because only the root forms propagate themselves, and the spread has been very gradual. The pest has been working in the State for twenty years.

Grape-leaf hoppers thrive where dry winter quarters are provided in the shape of leaves, dried grass, and weeds. They live on many other common plants besides grapes, when grape leaves have fallen or have not yet appeared in the spring.

A mixture of atomic sulphur with nicotine sulphate, using some whale-oil soap as a spreader and a 45 degree nozzle with a spray-tank pressure of at least 200 pounds, controls leaf-hoppers in Fresno county when applied once early in the season before much damage has been done, but before many hoppers have passed the fourth molt. The atomic sulphur sticks to the leaves and destroys the hoppers which hatch within ten days after application, but is primarily used to prevent mildew because it sticks much better than any other forms, especially when a little glue and whale-oil soap are used in the spray.

"Dubbins is a singularly unfortunate man." "What makes you think so?" "He's the sort of person who is always caught with his mouth open when a photographer takes a group picture."—Birmingham Age-Herald.

ALL DELIVERY CONTINGENT UPON STRIKES, FIRE, FLOODS AND CONDITIONS THAT ARE

Petaluma Box Company,

V. L. FRASIER Pres W. W. COCHRANE, Vice Pres F. B. FRASIER

BOXES OF ALL KINDS. FRUIT TRAYS. EGG CASES. CHICKEN COOP
LUMBER. LATH. SHAKES. SHINGLES. SAWDUST. SHAVINGS A

React this Letter

PETALUMA, CAL 4-5-15 191

New York Belting & Packing Co.,
San Francisco, Calif.

Gentlemen:- "Attention Mr. Gregory"

Your last shipment of Teet Special belting came duly to hand. Please accept our thanks for promptness in filling this order.

We are now using thie brand of belting on a good part of our plant and have found it so satisfactory that we are replacing all worn out belts with "Teet Special" We have placed thie belt on high speed machines and in places where severe strains and overloads are carried and our experience is that it carries the loads and lasts longer than the best grades of leather or Balata belting.

We find that it is not affected by heat or moisture, will not tear out at the lacing and will last twice as long on a run that wears out the best grade of leather belt. We do not hesitate to recommend "Teet Special" belting for use for any purpose for which a belt is used.

Very truly yours,
Petaluma Box Co.
per V. L. Frasier

A:LL

We shall be glad to help you solve your transmission belt problems. Just write to us.

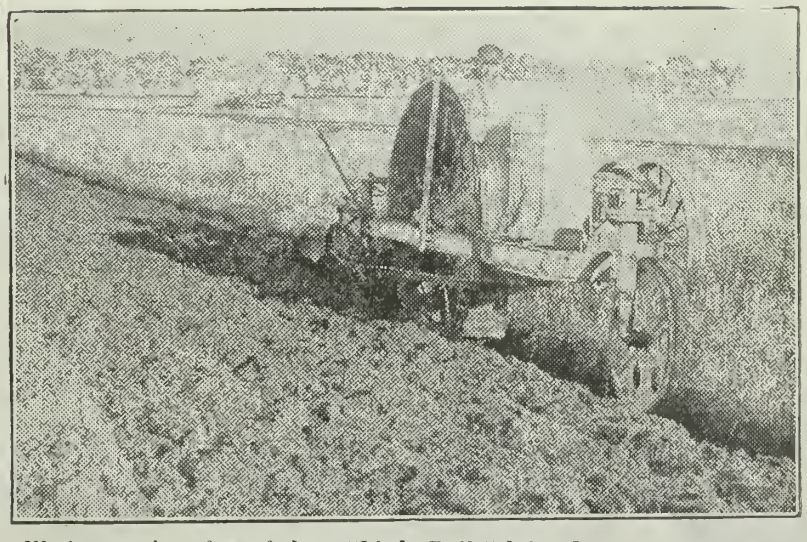
New York Belting and Packing Co.
Established 1846
519 Mission St., San Francisco

Let us send you newest Booklet on Rubber Belt. It's Free—Write for it!

Six More California Farmers will get "Little Bulls"

$495

5 H. P. On Draw-Bar. 12 H. P. On Pulley Belt.



We have only a few of these "Little Bulls" left. There won't be any more after the present stock is exhausted. TERMS IF WANTED.

The new 1916 "Big Bull" tractor now ready for delivery. Guaranteed 7 H. P. on the Draw-Bar, 20 H. P. on the Pulley Belt. The most wonderful tractor value ever offered.

Send coupon for tractor booklet and full information.

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PACIFIC COAST DISTRIBUTORS.

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HUGHSON & MERTON, Inc.
(Address Nearest Office.)
Gentlemen: Please send me a copy of your Tractor Book A-8.
Name .....
Address .....

White Hogs on a Fruit Ranch.

[Written for Pacific Rural Press.]

When C. B. Cunningham of Sacramento county decided to raise hogs in connection with fruit on his 50-acre ranch near Mills, Sacramento county, six years ago, he selected the O. I. C. breed as his best bet. Since then, through persistent effort, he has come to be recognized as the leading grower of that breed in the State and is often called the "father of the O. I. C.'s in California."

Considering that Mr. Cunningham has not only grown fruit extensively in those six years, but has also been associated with the selling end as well, his success as a hog breeder is out of the ordinary, and his methods could be profitably used by many fruit raisers who have more time for details.

His herd as seen today comprises 15 aged sows and three herd boars, Iowa Boy, Woodview Earl, and Missouri Lad, all of which have been carefully selected, the sows for their size, prolificacy, and motherly qualities; and the boars for heaviness of bone, size, and finish. It is the intention to increase the herd to 25 sows and three boars in the immediate future.

Not only was Mr. Cunningham the first breeder in the State to immunize his entire herd against cholera with the serum-virus treatment, but he has been a firm believer in sanitary quarters. The yards and runs were built on the brow of a low hill, the houses being six feet high and nine feet wide. These houses are movable and are used for farrowing purposes. The yards in which they are placed are 18 feet wide and 80 feet long, each equipped with concrete wallows supplied with clean water containing disinfectant to prevent lice and vermin on the hogs. Concrete flooring and iron troughs for feeding and watering are also used for sanitary reasons.



Sanitary Hog Quarters on the Cunningham Ranch in Sacramento County.

The entire ranch is fenced with hog-tight fence and during the winter months the hogs have the entire run of the place. At other times of the year, alfalfa, both green and dry, is fed liberally, together with beet pulp, ground grain, ripe fruit, and vegetables. Sugar beets, turnips, carrots, corn, summer squash, and pumpkins are raised for the hogs also.

Soft coal, lime, sulphur, wood ashes, and salt are kept before the hogs; and air-slacked lime is used freely in the bedding and runs to keep down foul odors.

Exhibitions Help Build Trade.—Being located close to Sacramento, and realizing the importance of showing, Mr. Cunningham began exhibiting three years ago; and through his efforts along this line has been able to familiarize many State Fair visitors with the white hog, as well as to supply them with foundation herds.

Due to prejudice, which Mr. Cunningham considers unfounded, it required a good deal of missionary work to advance the breed as it should be, and in this respect a statement of Mr. Cunningham's is of interest. He said, "Some breeders of dark-colored hogs claim that the white hog will not stand the heat. This is absolutely not true. For the past six years, I have been raising this breed here in Sacramento county and have yet to see a single individual that will not stand the heat as well as the other breeds. The O. I. C. of today is no more like he was twenty years ago than the other breeds are like their predecessors of that time."

Mr. Cunningham's experience with hogs clearly demonstrates that hog raising on a fruit ranch is entirely practicable, especially when alfalfa can be grown.

As a result of the work done in Oregon and Washington by the Portland Union Stock Yards in advancing the swine industry of these two states, California packing concerns are now able to purchase hogs from these states instead of from the Middle West as in previous years. It has only been four or five years since Oregon was importing hogs from the Middle West, and the present condition is more noticeable on that account.

SWEET WATER TRAPS WASPS.

To the Editor: As the wasps were destroying the ripening fruit, I suggested to my brother that he get some fruit jars, and fill them half full of molasses and water, to trap the wasps. He trapped not only the wasps, but also innumerable moths, millers, colored (but no white) butterflies, and the so-called blue-bottle flies. He hung one jar in every fourth tree and they were generally pretty well filled in three days and had to be emptied and refilled with the sweetened water.

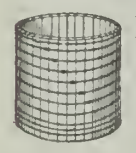
San Jose. **Sam'l Haigh.**

HORSE OWNERS! USE GOMBAULT'S CAUSTIC BALSAM.



A safe, speedy and positive cure The safest, Best BLISTER ever used. Removes all bunches from Horses. Impossible to produce scar or blemish. Send for descriptive circulars.

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I sell to the consumer. Box Shooks and Boxes. Am making a special price on Drying Trays. Lumber, Mill Work Doors, Windows, Mouldings, Wagons Tanks, Spraying Tanks. INDEPENDENT

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SCIENTIFIC PRESS PATENTS PATENT AGENCY
911 Crocker Bldg., S. F.
Circular containing 100 mechanical movements mailed free.

Hillcrest Stock Farm

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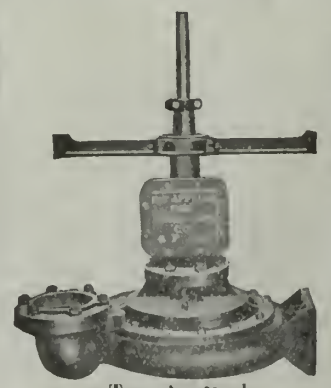
Breeders of
Short Horn Cattle
Shropshire and Merino Sheep

ATTENTION, SHEEPMEN.

My pure-bred, range-raised yearling Shropshire and Merino rams are now out of the mountains and ready for inspection at my place.

Shropshires sired by rams imported by me from England in 1911.

The KROGH Vertical Pumps



New Type Vertical.

Are automatically water balanced and require no adjustment of any kind. All weights of shafting and rotating parts are carried on the water film; absolutely without the use of thrust bearings or adjustment of any kind.

No BALANCE RINGS or PLATES in KROGH PUMPS. They are unnecessary, and mean only continual trouble. KROGH PUMPS with the least number of parts means less friction and greater efficiency.

Get our Bulletin No. 78 before deciding on a pump.

KROGH MNFG. CO.

SAN FRANCISCO, LOS ANGELES.

Beginning With Sheep.

With the increasing interest that is being manifested by smaller farmers in the sheep raising business, it would seem that advice to the beginner in the selection of breeding stock is timely. H. S. Arkell, of the Department of Agriculture of Canada, says:

"It is strict attention to the little things in sheep raising that so generally leads to a great success. No one should enter extensively into the business without having had a thorough practical experience. It is best for him to commence in a smaller fashion. As his flock increases in size so will his experience and he will learn for himself the proper methods to apply to every condition that may arise.

"Too many beginners become prey to the salesman who sees no need of correcting mistakes that the beginner may make in the purchase of his breeding stock. Generally the novice wishes to make personal selection of the animals and, if his ideals respecting type are somewhat astray, he gets many sheep which he would be better without. Had he been sensibly disposed and confessed his ignorance of many points of breed type, the salesman, unless he were most unscrupulous, would have aided him in choosing animals that would prove valuable to him. Few breeders who have any sort of reputation at all to sustain will take a rank advantage of a man who ingenuously leaves the selection of his purchase with them. In fact, many breeders state that they much prefer a buyer to make a personal choice than sell by description through the mail, since in the latter case they feel compelled, in order to uphold their reputation, to send a better animal than the price really calls for. With personal selection the seller's liability is limited, since he does not feel himself responsible for what the purchaser does.

Selection of Breed or Type.—The selection of breed depends largely upon the individual taste of the shepherd and the object he has in view in raising them. Success can be attained with any of the popular breeds produced here, but no person should ever commence raising a breed for which he knows he cannot obtain a ready sale. Perhaps his means and conditions do not warrant him to enter into the production of purebreds. If he is breeding sheep merely for mutton purposes, high-class grades will suffice, yet even in buying grades he should take care to select only those possessing a good mutton conformation. Many farmers think that, since they own simply grades, 'any old sheep' at all will produce good enough results in the flock, and, therefore, the more cheaply they can buy the better. This is false economy, for very frequently they obtain in their flock animals that do not pay for the expense of their keep.

Uniformity of Type. — Unity of type in the flock should be the direct aim of every breeder. This applies to grades as well as purebreds. With purebreds this feature is especially important. In a flock of sheep where several types obtain, choice of a suitable ram is most difficult. Disparity in this respect detracts from the general appearance of the flock and gives the buyer or casual observer an unfavorable opinion. Every breeder should aspire to produce a distinctive type. He should endeavor to breed a class of sheep possessing characteristics that wherever the animals are, they will be recognized as his breeding. But to attain this he should never uphold some fancy character in preference to utility features. No features should be given undue prominence beyond another, especially one that is purely ornamental. The establishment of an ultra form of some fashionable character has at times become an obsession with many breeders; and this sin (for it cannot be called anything else) must be avoided. The ultimate destination of most purebred rams is at the head of grade flocks, and their utility features only should be taken into consideration.

The beginner should study well and become familiar with the type or breed he has selected. He must be able to recognize undesirable features and disqualifications. These he should endeavor to preclude from his flock, and to this end he should practice a rigorous culling every year. Individuals which do not possess the merits that his ideal calls for should be banished from the flock. Sheep having grave defects of character or type should not be used for breeding purposes.

CALIFORNIA'S PERCHERON STANDING.

California stands 17th in the United States in Percheron breeding, according to Wayne Dinsmore, Sect'y of the Percheron Society of America. During the fiscal year ending October 31, 1914, California breeders recorded 77 American bred colts in the Percheron Society of America. This number was recorded by 24 members who registered 76 head and by one non-member who recorded one animal.

The majority of the animals registered during the time specified were colts foaled in 1913, although the figures include some produced in 1912 and some in 1914.

Inasmuch as names, addresses, and number of animals recorded are matters of extreme interest to all horsemen located within the State and in adjoining states, specific details are given.

Wm. Bond, Alameda county, recorded three animals; Friesleben Est., Butte county, recorded 1; J. J. Shrock, Fresno Co., 1; Cal. Mexico Land & Cattle Co., Imperial county, 1; Oral C. Thompson, Lake county, 6; Wm. Brockman & Son, Lassen county, 1; Elliott-Brant Rancho, Los Angeles county, 1; August Freese, Los Angeles county, 1; Ed. R. Maier, Los Angeles county, 2; J. C. Johnson, Mendocino county, 1; J. L. McCracken, Mendocino county, 3 and 1 imported; J. L. Harvey, Modoc county, 3; T. M. Harvey Modoc county, 2; F. L. Hall, Riverside county, 1; A. J. Stalder, Riverside county, 9; Revel Lindsay English, San Bernardino county, 4 and 4 imported; Whitehall Est. Co., San Francisco county, 4; Francis I. Hodgkins, San Joaquin county, 1; H. G. Learned, San Joaquin county, 3; Edmund Miller, San Joaquin county, 1; C. A. Peninger, San Joaquin county, 7; Cal. Polytechnic School, San Luis Obispo county, 6; Oliver Jenkins, Santa Clara county, 6; Geo. J. Read, Ventura county, 7; and H. P. Eakle, Jr., Yolo county, 2.

HOT WEATHER

the season a



DE LAVAL SEPARATOR

saves most over any other separator or skimming system

IT'S A GREAT MISTAKE FOR any dairy farmer without a separator or using an inferior machine to put off the purchase of a De Laval Cream Separator in the summer months

GREAT AS ARE THE ADvantages of the De Laval over all other separators, as well as over any gravity setting system, at every season of the year, they are even greater during the midsummer season than at any other time.

THIS IS BECAUSE HOT weather conditions occasion greatest butter-fat losses with gravity setting and render it most difficult to maintain quality of product with any gravity system or unsanitary separator, while, moreover, the quantity of milk is usually greatest, and any loss in either quantity or quality of product means more.

THEN THERE IS THE GREAT saving in time and labor with the simple, easy running, easily cleaned, large capacity De Laval machines over all other methods or separators, which naturally counts for most at this time of the year.

HENCE THE GREAT MISTAKE of putting off the purchase of a De Laval Cream Spearator in summer, whether you already have a poor machine or none at all, and every dairy farmer should keep in mind not only that a De Laval will pay for itself by next spring but may, if desired, be bought on such liberal terms as to actually save its own cost while being paid for.

EVERY CLAIM THUS MADE IS subject to easy demonstration, and every De Laval local agent is glad of the opportunity to prove these claims to you, in your own dairy, without cost or obligation on your part.

IF YOU DON'T KNOW THE nearest De Laval agent please simply write the nearest main office as below.

DE LAVAL DAIRY SUPPLY CO.

165 Broadway NEW YORK | 101 Drumm Street SAN FRANCISCO | 1016 Western Avenue SEATTLE

50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER.

GRANDSONS OF TILLY ALCARTRA

At Prices within Reach of Every Breeder and Dairyman



A Grandson of Tilly Alcartra.

We have several splendid grandsons of this now famous cow which we can deliver to you at prices which will suit the pocketbooks of every dairyman wishing to improve the quality of his herd, whether it be a grade or pure-bred herd. These bulls are sired by our herd bull, Prince Alcartra Korndyke and out of A. R. O. cows, and the only living grandsons of a cow having a record of over 30,000 pounds of milk in a year. Such an opportunity for increasing production has never been offered DAIRYMEN AND BREEDERS in California, price and quality considered. Buy one of these bulls and solve your low production problem. Write

J. S. Gibson Co., Box 97 Williams, Cal.

"THE NAME GIBSON INSURES QUALITY."

When Grain is High Feed DIGESTER TANKAGE

Whether intended for show or market, the hog attains perfect condition and more quickly and economically if his ration includes some DIGESTER TANKAGE. The growing pig needs DIGESTER TANKAGE as a bone and muscle builder. Write for free pamphlet on hog-feeding. WESTERN MEAT COMPANY,

Animal Food Dept., 704 Townsend St., San Francisco, Cal.

Short Horn Bulls

7 Choice Registered Tuberculin-tested Short Horn Bulls, aged 14 to 20 months. If interested, write or call immediately.

H. L. MURPHY, PERKINS, CALIF.

With the Live Stock Men.

DAIRYING.

An 80-acre dairy ranch has recently been purchased in Biola, Fresno county, by C. L. Paine of Fowler.

The San Joaquin Cow Testing Association now has 1100 cows. This association was organized about three months ago, at which time it had only 600 cows.

Seventeen carloads of butter were shipped in 15 days in June from Salt Lake City to Chicago markets, indicating the growth of the dairy industry in that section.

Shipments of Formaggio pecorino di stagione (sheep milk cheese after curing) were made from Rome to the United States during 1914 to the value of $1,297,893.

Two carloads of Holstein cattle were recently received by the Churchill Creamery of Fallon, Nev., from Idaho. These were purchased by the Creamery for the farmers of that section and will be distributed among them.

That Winton, Merced county, is making rapid progress as a dairy section is shown by the amount of butterfat being shipped from there. There were 5480 pounds shipped in April; 6281 in May; and 3241 for the first half of June.

A complaint has been recently filed by the Montague Creamery of Siskiyou county with the railroad commission, urging that the express companies reduce the charge on shipments of butter from Montague to San Francisco.

As an incentive to greater efficiency in dairying, the Development Committee of Butte county have decided to award a loving cup to the owner of the cow in the Gridley Cow Testing Association, producing the largest quantity of butter fat.

A pamphlet, neatly bound, of convenient size, and well illustrated, has just been issued by the American Guernsey Cattle Club, containing a fund of general information in regard to what the Guernsey breed has accomplished and is doing at the present time.

Many Brown Swiss dairy cows are being brought into the Toro district of Monterey county from eastern states and will be placed on the mountain dairies, for which purpose this breed of dairy cow is particularly adapted. Although popular in New York state, the Brown Swiss cows are not found to any extent in California.

The farmers of Carson Valley, Nevada, are making great headway in improving their herds. As a result of the testing being done there, large numbers of useless animals or those not coming up to the standard, are being sold to stock buyers and replaced by a better grade of cows. A number of tests are being carried on by students of the agricultural department of the University.

After the war is over, it is proposed that the United States shall turn the tables on Europe and ship dairy cattle to the dairy centers there. For this purpose, the National Dairy Council has announced that they will open headquarters at Chicago, which is to become the center of the exporting trade. A campaign is about to be started by that organization for the prevention of cattle plagues and for co-operation with state legislatures to obtain perfect dairy sanitation everywhere.

MISCELLANEOUS.

A distributing plant to handle two cars a week of meat will shortly be established in Sacramento by Miller & Lux.

Among the bills recently approved by Governor Johnson is one which will appropriate $2500 for the purchase of livestock for the State Prison at San Quentin.

An effort is being made by the Dairymen's Association and the Humboldt County Farm Bureau to secure the appointment of a county veterinarian for Humboldt.

The $3,000,000 packing plant of Armour & Co. in Argentine has just been completed. It is expected that most of the meat shipments will go to Europe, mostly to England.

A small herd of blooded cattle, consisting of a bull and three cows, were recently purchased in Sacramento county by a committee of members of the Board of Supervisors of Nevada county and the superintendent of the county farm. These will be placed on the county farm with the intention of making it a model for private farmers.

Nearly one hundred dollars for one day's sport isn't so bad, especially when the fun proved a boon to many stockmen. Last week two hunters trailed and killed an enormous mountain lion which has been devouring an average of two to ten calves a month for years in Kern county. Rewards to the amount of $75 were paid to the hunters and it is expected that the skin will bring them about $20.

Receipts at the Portland Union Stock Yards for the week ending July 3 were: Cattle, 1707; hogs, 6313; and Sheep, 3404. On account of the holidays, the receipts in all lines were small. Steers of high quality sold at $6.75; cows and heifers in proportion. Top hogs went for $7.60. Sheep receipts appear to be on an unsteady footing. Lambs, unless they show quality, have a downward tendency.

HORSES AND SWINE.

The National Duroc-Jersey Swine Record Association will shortly make Peoria, Ill., their headquarters.

A carload of horses recently left Fallon, Nev., for the East, whence it is presumed they will be shipped for use by the French army.

On July 7 two carloads of horses left Riverdale for New York, from which point they will be shipped to France.

Six Duroc-Jersey hogs were recently shipped to I. G. Lacey of Grant Falls, Colo., by the firm of Ross & Weisbaum of Kings county.

A trainload of 200 horses gathered from various points in the San Joaquin valley recently left Tulare for Fort Worth, Tex., for use by the French army.

A representative of the British government will make Sacramento his headquarters while engaged in securing all the available mules in the State for pack train purposes by his government.

Twenty-five thousand horses are reported to have been purchased in

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

DAIRY CATTLE.

REG. HOLSTEINS—We offer choice grandsons of King Segis, also sandsons of the world's record cow. Creamelle Vale; blood that increases the value of your herd. Write or call and see our herd. F. H. Stenzel, San Lorenzo, Cal.

$150 HOLSTEIN BULL—Son of Romeo Colantha of Riverside. Fine big-boned producing bull. White with few black spots. Address Box 237, Marysville, Cal.

REGISTERED HOLSTEINS—Young bulls sired by King of Riverside and Lakeside Model Prince from A. R. O. dams. J. H. Harlan Co., Woodland.

FOR SALE—About 60 head of fine dairy heifers from 6 months to 2½ years old. Grade Jersey and Holstein. J. S. Smith, 226 Alameda Ave., San Jose, Cal.

FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

AYRSHIRES—For sale, fine young bulls from imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

REG. GUERNSEY BULLS for sale. Grapewild Farm, Mayhews, Sacramento county, Cal. A. B. Humphrey, Prop., P. O. Box P.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class, thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

JOHN LYNCH, breeder of Registered Shorthorns. Milk strain choice. Young stock for sale. Box 321, Petaluma, Cal.

REGISTERED JERSEY BULL CALF—Six months old—a fine animal. $40 if sold soon. O. J. Ames, Oakdale.

FIVE REGISTERED HOLSTEIN cows and four heifers priced for quick sale. K. W. Abbott, Milpitas, Cal.

REG. JERSEYS—Herd established 1868. Young bulls from best cows. Rancho Dos Rios, R. 2, Modesto.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

HOLSTEIN BULLS—Pure-bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

REGISTERED GUERNSEYS—Both sexes for sale. Mrs. Charles G. Lathrop, Stanford University, Cal.

REGISTERED HOLSTEINS—A. W. MORRIS & SONS, Corp., Importers and Breeders, Woodland, Cal.

REGISTERED HOLSTEIN BULLS from A. R. O. dams. J. W. Benoit, R. 2, Modesto, Cal.

CREAM CUP HERD—Registered Holsteins. Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED JERSEY CATTLE—Young stock for sale. W. J. Hackett, Breeder, Ceres, Cal.

PELANDALE HERD of Reg. Holsteins. Young bulls for sale. J. A. Pelanda, Salida, Cal.

SUNNYSIDE HERD—Registered Holstein cattle. E. F. Guerin, R. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma.

BREEDERS OF REGISTERED HOLSTEIN CATTLE—McAlister & Son, Chino, Cal.

BREEDER of Registered Holstein Cattle. Ernest Otto McClure, R. 2, Modesto, Cal.

LINWOOD FARM—Registered Holsteins and imported Guernseys, Santa Cruz, Cal.

N. H. LOCKE CO., Lockeford, Cal.—Choice young Jersey bulls for sale.

PACKWOOD FARM HERD for Holsteins. W. F. Mitchell, Visalia, Cal.

HORSES AND MULES.

PURE-BRED Registered Percherons—A few choice young stallions two years old; also two, three and four-year-old fillies, majority in foal, for sale. Los Altos Stock Farm, Los Altos, Cal.

FOR SALE—Prize-winning Shetland Ponies. Selling out. Priced worth the money. Maurice Rucker, Fair Oaks, Cal.

BEEF CATTLE.

FAIR OAKS RANCH, Willits, Cal.—Breeders of registered Duroc and Berkshire swine. Weanlings for sale.

HOPLAND STOCK FARM—Registered Short-horns. Prices on application. Hopland, Cal.

SIMON-NEWMAN CO., Breeders of registered Herefords. Newman, Cal.

TWENTY Shorthorn Bulls from Nebraska. G. A. Murphy, Perkins, Cal.

SWINE.

HOGS—Forty head of Big Type Poland-China boars of any age. Sired by Iowa Wonder, who is a son of A. Wonder, the greatest hog living or dead. No females to sell at present. On account of the large number on hand will make special prices. Geo. A. Smith, Corcoran, Cal.

REG. BERKSHIRES—Fine 3 months old pigs, both sexes, by Panama Lee, Gold Medal Winner at 1914 State Fair. Also bred sows. C. E. Barrows, Los Molinos, Cal.

BLATCHFORD'S PIG MEAL weans easily and safely; no trouble; no milk. Write for free folder. "The Safety Route from Pighood to Porkage." Coulson Co., Petaluma.

REGISTERED, PUREBRED BERKSHIRE PIGS—(Weanlings) both sexes. Reasonable prices. Write for full information. J. E. Hall, Sebastopol, Cal.

BERKSHIRES—Bred sows, service boars and young pigs. Brae Bourne Ranch, R. 3, Box 172, Santa Rosa, Cal.

BILLIKEN HERD of pedigreed O. I. C. Swine; weaned pigs of both sexes ready for immediate shipment. Pairs and trios mated, not akin. All from big type stock of extra heavy bone. Immunized against hog cholera, crated and registered free. Write for descriptive circular and price list. C. B. Cunningham, Mills, Sacramento County, California.

BLUE-RIBBON HERD DUROC-JERSEY HOGS—Bred Gilts a specialty. 15 bred now. 20 ready to breed. Sires and dams win all blue ribbons 1912, 1913, 1914 State fairs. 15 first, 13 seconds, 6 thirds, 7 fourths, 1 fifth. Will show 1915. For prices, write John P Daggs, Modesto, Cal.

BERKSHIRES—Headed by Bandmaster 2nd, junior champion Iowa State Fair. My females were winners at Iowa, Wisconsin and Minnesota State Fairs. Farm at San Mateo. Address W. M. Carruthers, 218 Hearst Bldg., San Francisco.

REGISTERED BERKSHIRE SWINE—All ages, for sale. Grapewild Farm, Mayhews, Sacramento, Cal. A. B. Humphrey, Prop., P. O. Box P.

25 POLAND CHINA SPRING BOARS—Jan., Feb. March farrow. Prices, registered and crated, $20, $15, $10. Edwd. A. Hall, Watsonville, Calif.

DEL DAYO FARM (Old Haggin Bottom Ranch)—Breeders of Registered Berkshires, both sexes for sale P. O. Box 1140, Sacramento, Cal.

PLAINFIELD STOCK FARM—Registered Berkshires and Durocs. Young stock for sale, both sexes. H. M Bullard, Woodland, Cal.

REGISTERED BERKSHIRE SOWS and their weanlings. Quality, health and vigor. Boars, all ages. F ll. Wilson, Turlock, Cal.

GLENVIEW POLAND-CHINAS—Baby pigs from best families for sale. From $15 up. Chas. R. Hanna, R. 3, Riverside, Cal.

IMPERIAL STOCK FARM BERKSHIRES—Quality and price guaranteed to satisfy. R. J. Merrill & Son, Morgan Hill, Cal.

REGISTERED BERKSHIRES — Weanling boar pigs $10.00 each. A few older boars. J. M. Bomberger, Modesto, Calif.

BERKSHIRES—Utility and Choice Registered Pedigree stock. Correspondence solicited. C. H. Thompson, Novato, Cal.

REGISTERED BERKSHIRES for sale. All ages. Boars ready for service. Stanislaus Stock Co., Crow's Landing, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in State. $20 up. M. Bassett, Hanford.

FAIR OAKS RANCH, Willits, Cal.—Breeders of registered Shorthorns, Avondale strain. Yearling bulls for sale.

REGISTERED DUROC-JERSEYS from Eastern sows Six months gilts and boars. S. S. Southworth, Napa Cal.

REGISTERED POLAND-CHINA HOGS—Cholera immune. W. D. Trewbitt, Hanford.

POLAND-CHINAS—Prize-winners. Money-makers. B Bernstein, Hanford, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

POLAND-CHINAS—Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

POLAND-CHINAS — Prize-winners. Satisfaction or money back. Geo. V. Beckman, Lodi, Cal.

REGISTERED DUROC-JERSEY SWINE—Las Pederas Ranch, El Cajon, Cal. M. S. Allen, Manager.

REGISTERED POLAND-CHINAS — Young stock for sale. Hewitt & Hewitt, Hardwick, Cal.

DUROCS—Weanlings and a few choice bred gilts H. E. Boudier & Son, Napa, Cal.

REGISTERED POLAND-CHINAS and Duroc Jerseys T. H. Beckman, Lodi, Cal.

KNOB HILL STOCK FARM—Registered Poland-China swine. A. M. Henry, Farmington.

READAKS RANCH herd of registered Poland Chinas W. J. Hanna, Gilroy.

REGISTERED BERKSHIRES—Young stock for sale F. W. White, Elk Grove, Cal.

BERKSHIRE BOAR PIGS—Butte City Ranch, Butte City, Glenn Co., Cal.

CHAS. COODMAN, Breeder of high-class Berkshire Swine. Williams, Cal.

POLAND CHINA HOGS—Registered. B. J. Miller Llewellyn Ranch, Latrop.

DUROCS—A few bred gilts, boars and gilts left. E. C. Curtis, Napa.

REGISTERED O. I. C. SWINE—C. D. CONWAY, Lakeport, Cal.

POLAND-CHINA HOGS—C. A. Stowe, Stockton, Cal

SHEEP.

12 REGISTERED SHROPSHIRE RAMS for sale, sired by Clover Hills' Crested Wave A. T. (011590R) 300968 Age 2 to 4 years. Ranch 4 miles north of town. Harry L. Huston, R. 2, Box 23a, Winters, Cal.

FRANK MEACHAM, Petaluma, California.—Breeder Shropshire, Rambouillets, American Merinos, both sexes. Take electric car at Santa Rosa or Petaluma for Live Oak.

YEARLING SHROPHSIRE BUCKS for sale, single or carload lots. J. R. Dixon, Cal.

BULLARD CO. Breeders and Importers of Rambouillets. Hanford, Cal.

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers, Shropshires.

MISCELLANEOUS.

OWING TO THE MANY requests of our customers to give them information as to where they can buy or sell dairy stock, we have established a livestock bureau in connection with our office. For anything in this line write us. V. A. Peterson Alfalfa Seed Co., Arbuckle, Cal.

FOR SALE—Young calves from good mixed dairy cows. P. O. Box 213, Antioch, Cal

the United States by Italy during the past few months, and it is said that there are agents in the country looking for as many more.

In Shasta county, it is reported that two agents of the French government are seeking acceptable horses for war purposes. They desire animals over 5 years of age, weighing 900 to 1300 pounds.

Bryce Sherman scored 85.8 points and was declared the winner in the pig-feeding contest conducted by the agricultural department of the Tulare High School, under the direction of the University of California.

A swine breeders' association is under consideration for Chowchilla.

Four carloads of horses were shipped out of Stockton last week, having been secured in San Joaquin and Calaveras counties. It is said that four agents of the British government are scouring that part of the State for horses and mules for army purposes.

CATTLE AND SHEEP.

Great Britain has placed an embargo on the exportation of all wool, except Merino, to the United States or to the Allies.

The Chicago steer market is advancing rapidly, and it is expected that choice animals will shortly bring $10 there.

The sale of about 100,000 bales of Merino and a like amount of crossbred wool is reported to have been made to London recently.

A 21-pound fleece from one Cotswold sheep has been sent to the Panama-Pacific Exposition by Armand Perkins of Baker City, Ore.

An agreement has been made between the English Board of Trade and members of the Textile Alliance, Inc., that the United States may soon export to England a large quantity of tops and yarns.

Several of the Basque sheep men of Monterey county are adding beef stock to their farming. Recently several cars of purebred Shorthorn and Hereford cattle from other parts of the State were received by them.

Heavy shipments of cattle are being made weekly by stockmen in the southern part of Monterey county, among the shippers being John and Sam Matthews of Kings City; Redmond and Cahill, Parkfield; and John Conley of San Lucas.

An organization is proposed for Monterey county which will protect cattlemen against estrays and rustling. It is expected that the association will publish a book containing facsimiles of cattle owners' brands and earmarks.

The fancy prices offered for beef in the British Isles is said to be causing the farmers to dispose of their blooded breeding cattle, thus robbing the country of its fine stock. The Board of Agriculture has issued circulars condemning the practice.

A bill has recently been passed by the French chamber of deputies authorizing the purchase of 100,000 cattle on the hoof. This is in addition to the 30,000 head already secured in this country and the 240,000 tons of refrigerator meat contracted for.

A large amount of American-made serge has been sold to London for use by the civilian population. It would seem then that the English mills are so occupied at the present time with war equipment, that a new field may be opened for American manufacturers.

The sale of 2094 acres in Alexander Valley, Sonoma county, is reported to have been made by Joe Alexander to H. C. Lawrence of Fullerton. The property is considered one of the best stock ranges in the State, and it is the intention of the new owner to raise blooded stock.

Hereafter beef consumed in the Panama Canal Zone will be secured from cattle slaughtered there instead of dressed beef from this country. The killing of local cattle to test its quality has already begun; and agents will shortly be sent to Central and South America to secure animals which will be sent to the Canal Zone to be fattened and then sent to the block. The Canal supply department figures a saving of 10 to 20 per cent can be made in this way.

A DAIRYMEN'S ASSOCIATION WORTH WHILE.

[Written for Pacific Rural Press.]

On the assumption that when farmers want a thing they go after it as a whole rather than as a unit, the dairymen of Humboldt county have been the only farmers of that class in the State to organize and maintain a dairymen's association for any considerable length of time.

Most associations are started for the accomplishment of some specific thing and so it was with the Humboldt County Dairymen's Association. When started several years ago it was the intention of the organizers to advance community breeding, the members deeming such a work entirely practicable in view of the large number of Jersey cattle which are in the county, and considering such steps the surest and quickest way of getting and keeping good bulls in the county.

Almost immediately after organizing, however, the work of the association was switched from the original purpose to things returning a quick direct profit, the buying of seeds being one.

At the start opopsition to this plan was strong among the local merchants, who naturally objected to losing the seed trade of the county; but the saving to the farmer as well as the increased quality of their seed was so apparent that this line of work on the part of the association has continued and at present the annual business done by the Association in seeds amounts to between $3,000 and $4,000. Being the wholesale rather than the retail price as before, this does not represent the total cash business that would ordinarily be credited to the seed business of the members, but it does represent a big saving each year to the farmers.

Soon after its organization, legislation matters pertaining to the dairy industry came up; and since then a legislative committee of the association has kept in close touch with the proposed laws, both State and local, with the result that politicians have learned to consult the association before passing any dairy legislation.

Ass'n Stops Turnip Feeding.—Some years ago the butter from Humboldt county became poor on account of excessive feeding of turnips, which would not allow of the creameries turning out a good product.

Seeing that a poor reputation for their chief product meant an actual loss to them through cheaper butterfat quotations, the Association, through co-operation with the local creameries, put a ban on turnip feeding, the creameries refusing to accept milk or cream from those dairies where turnips were fed, and the Association giving their moral support of the movement. As a result of their stand the creameries have been enabled to enforce this rule with the result that their butter is again up to a high standard, and commands top prices, which in turn allow the dairymen to command top prices for their milk and cream.

The Association's approval has such strength that as a rule all matters affecting, or apt to affect, the dairy industry are taken up at its monthly meeting, and every side of the issue thoroughly discussed before action is started.

While they have strayed a long ways from their original purpose of community breeding, there is still much talk among the dairymen on this subject and several members expressed their belief that some time in the future the work in that direction would be pushed. In the meantime they are doing an immense amount of good for the dairy industry, and setting an example which should be more frequently followed by other dairy sections of the State.

Pocket handkerchiefs and laces will whiten if soaked over night in a bath of toilet carbolic soap.

Poland China Pigs

LARGE AND MEDIUM TYPE

A Wonder and Giantess Stock.

Prize-Winners of either type. Several very fine young boars and a few bred sows for sale.

We guarantee to please or refund your money.

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[Answered by Dr. H. R. Wintringham, Petaluma, Cal.]

WHITISH SPREADING ERUPTION.

To the Editor: There is some kind of a breaking out on my cows. It starts about the size of a bean and then grows larger, the hair comes off; it is a rough whitish looking color, coming principally around the head and ears.—A Subscriber, Corning.

[This is ringworm. Wash affected parts well with warm soap and water, then apply tincture iodine daily for one week, after which apply vaseline to the part once or twice to keep the skin soft.]

LUNG WORMS IN CALVES.

To the Editor: Please give me a remedy for lung-worms in calves. Last year I lost a number, and I have some now that have commenced to cough. Have been particular about keeping things clean and do not know what causes it.—J. W. D., Rhonerville.

[There is no absolutely certain remedy for this trouble. Two of the best treatments are as follows: Get a hypodermic syringe which will hold two drachms. Force the needle into the interior of the trachea or wind pipe, and inject two drachms of the following: ether, 2 oz.; oil of turpentine, 1 drachm; or use benzine in 2 drachm doses. Continue this treatment daily until symptoms are relieved.]

RIDDING BITCH OF PUPS.

To the Editor: We have a very fine female bull terrier; accidentally she got with pup with astray about two weeks ago. Please tell us how to get rid of them; what we can give her that will cause her to lose them, as we don't want her to lose her shape.—F. V. A., Modesto.

[The only certain way to rid your bitch of her pups is to have a competent veterinarian operate and remove them, including the uterus and ovaries. No medicinal treatment is certain. However, you may give her two grains of potassium permanganate daily for four days and try to abort them in this way.]

WHAT THINKING IS DOING FOR BEEF.

(Continued from page 49.)

bred yearlings. This was a disadvantage for two reasons: the poorly bred steer does not put on flesh as economically as the well bred one, and the butcher demand is not usually for a heavy finished animal, but rather for the small one in the spring when finishing is completed. Thus the gain in weight was not so large as it should be and the spread in price between the fall, when feeding was started, and the spring when finished, was not so great as it should have been. As we have seen by the above statement of the range man, this condition will not exist when the range man finally settles down into his new method.

Finances.—So far in the new scheme of things, so good. We have shown that the range man and the feeder are beginning to see the light through the same deep hole, and were their lands adjacent to each other the trip from range to feed lots, and then to market would be fine sailing. Such is not generally the case, so two other factors must be theorized on before the chain is completed. First, a means of exchange which will allow the breeder and the feeder to locate each other for barter and trade in the fall; and, second, a system of financing which will permit the banker or money lender to make loans on cattle as he would on other property.

Few farmers who are prospective feeders have the capital to purchase cattle outright from the range man, in such quantities as they would require. The range man, on the other hand, wants and quite often needs his money for the cattle as soon as he sells them. The situation is met in the East by loan companies; and it is suggested that such an organization is necessary here to handle the loans before the breeder and feeder can co-operate.

Another theory is that the local merchant who deals with the prospective feeder sign a note with him, upon which the local banker could loan the required amount. This has been found satisfactory in Texas with dairy cattle.

Buying and Selling.—With unlimited capital, however, and granting for the sake of argument that both range owner and farmer are agreed on the new order, a system of distribution between breeder and feeder and again between feeder and packer is still lacking.

Suppose, for example, a range man has a thousand steers to sell. Before he leaves home, he wants to be sure of his customers. Unlike his present system, he cannot sell them in a lump, but must scatter them out in small parcels. Finding the feeder, therefore, means an added selling expense; and for that reason he figures, and justly so, that he can sell to better advantage direct, even though his cattle are still unfinished for the market.

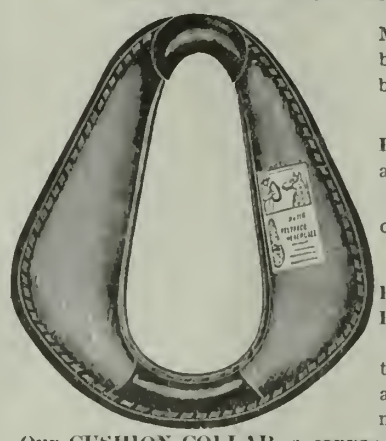
Turning the tables round to the small feeder seeking stock, we find he also is at a disadvantage in buying. He is unable to locate the kind of stock he is looking for in the right quantities for his purposes. He can perhaps find, after much time and expense in travel, the desired quality, but in too large a quantity and vice versa.

Considering that the object of fattening cattle is to sell the feed at a fair market price, and also to conserve fertility, it is evident that the farmer cannot well afford to go to the above-mentioned expense of buying. Perhaps the cattle loan company could also aid in this respect.

On top of this, however, is the problem of marketing in small lots. Were the cattle finishing system above outlined generally practiced, the packer could afford to send his buyers into a field, but when such feeders are badly scattered, the additional cost to the packer excludes him from the plan and throws the feeder onto the mercy of either the local commission merchant or the local butcher, whose demand is limited.

Getting our theories and facts all into one hat, then, we find that while it appears entirely feasible to suppose that our beef raising scheme will ultimately be much different from our present wasteful one, it is going to take time to couple up the links in a satisfactory manner to all concerned. In the meantime, thinking will continue and with it some progress.

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Corn for Napa County Hogs.

[Written for Pacific Rural Press.]

Napa county farmers are fast being converted into purebred livestock breeders, as is evidenced by the number of purebred herds which have been founded there in the past two or three years.

Hogs seem to predominate numerically, due perhaps to the convenience with which they may be fitted into a diversified scheme of farming.

One of the late additions to the purebred hog population there is the herd of registered Duroc-Jerseys owned by Scott S. Southworth.

Four sows and a boar were purchased by Mr. Southworth in the East about a year ago, and, as is customary with swine, this number has been greatly increased since then.

After considerable study of the feeding problem, a combination of corn, tankage, and alfalfa pasture has been decided upon, with the addition of middlings for the brood sows and young pigs.

Corn is preferred to barley; and as it is practicable to raise good corn in Napa county, Mr. Southworth expects to continue to raise and feed that grain. The corn possibilities there are an asset to the hog grower, which is rather uncommon in California.

CORN WORM AND GREEN LADYBUG.

To the Editor: I would like to know what to do for grub that crawls in through silk of corn and bores a path on outside of cob. Also would like to find a spray that will kill off "green ladybugs" from string beans.—A. K. T., Sacramento.

[Though much effort has been put forth to save the corn from the "earworm," no satisfactory prescription has yet been announced. If the corn is silking when the moths are flying the ears will be more or less affected. Corn planted very early or late, which does not come into condition while the moth is active is likely to have little trouble. Green ladybugs (diabroticas) can be poisoned by spraying with lead arsenate, but we would not dare to use it on a vegetable of which the outside is eaten, as is the case with string beans, for fear of poisoning the eater. There is no good treatment for diabroticas. Fortunately they are not usually abundant every year. —Editors.]

SMALL BLACK-SPOTTED BEETLES IN GARDENS.

We have been deluged with the beetles described above, and we have answered innumerable queries on the subject. They are the Diabrotica soror, 12-spotted cucumber beetle. Probably the best way to control them is by spraying 8 pounds neutral arsenate of lead per 100 gallons of water thoroughly on the upper and under surfaces of the plants affected. Apply this whenever the bugs become numerous. If the plants seem to be dying without cause, and the beetles are numerous, their larvae are probably eating the roots, and may be killed as recommended below by Wm. Moore of the Minnesota Experiment Station. Mix 1 teaspoonful of "blackleaf 40" in a gallon of water. When larvae are suspected, pour some of this onto all sides of the stalk of the plant so it will run down and touch the larvae which are not far below the surface.

GROWING TIMOTHY.

To the Editor: What is the best way to sow Timothy for hay in Sierra Valley? Does it need irrigation, and how much? We have frosts here most every night. Also what is best time to plant dry crop alfalfa.—J. B.,

[Timothy is only grown in mountain valleys in the extreme north of the state, where it does exceedingly well. A correspondent of the Rural Press who recently went through that part of the State writes us that nearly every one in Sierraville that grows timothy plants it in the fall. And after the snow melts off in the spring they have an early start on timothy. It grows there from 3 to 4 feet high and does well. About 150 lbs. of seed are usually sown to the acre.

We cannot advise you about growing alfalfa where you have frost nearly every night. The common alfalfa would probably do little or nothing under such conditions and only the kinds which the seedsmen offer as extra hardy would promise much. Sowing should be done early in the season, when the ground gets warm after the snow melting.—Editor.]

POISON GOPHERS AND RATS.

To the Editor: Gophers are unusually numerous and wary this season. They spring or bury the traps without being caught, and refuse all ordinary poisoned baits, such as Gophergo, etc. I got a few by taking a small beet, slicing off a piece of the root and inserting a little strychnine in the root, which I pushed down their burrows as far as I could. But they got too cunning at last to touch beets. I therefore thought I would try a new bait. I picked some green unripe Windsor (horse) beans, punched a small hole in each, inserted a little strychnine, put a bean in an iron spoon, and poured a little sirup over it. I then cleaned out the runways so that I could push the spoons in the full length, and closed the holes up with a lump of earth. This gets them 9 times out of 10, as they can't resist the sirup. They are as cunning as rats, but even rats can be caught or driven away if you know their weak point, and that is eggs. They will take an egg every time, no matter how much you may handle it, and by punching a small hole in the egg and putting in a little strychnine I have cleared them out, and have not seen a rat for nearly 3 years, although my neighbors have lots of them. If every one in town and country would give them poisoned eggs the rats would soon be exterminated. Sam'l Haigh.
San Jose.

BLUE-JAYS EAT COCOONS

To the Editor: As I was cultivating in my prune orchard, I noticed a good many jay birds hopping from limb to limb, looking for the cocoons of the caterpillar, which they eat. They pick them off, stand on them, pull them to pieces with their bills, and devour the contents. I advocate saving the jay birds; they are one of the best friends of the ranchers. Would they not get rid of the tussock moth? Wm. Strelow.
Healdsburg.

The Humboldt County Farm Bureau reports a gain of 155 new members during June.

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H. SEVERENCE, poultry superintendent of Stag's Leap Ranch, Napa county, recently visited this office while on a trip he was making for the purpose of selecting some breeding stock for use in fall hatching of chicks. Mr. Severence has had years of experience in this line, at times hatching two thousand or more chicks during August, September, or October. He has promised that he will soon write us an article describing some of his experiences with fall chicks, in which he will endeavor to give beginners some instructions that should be helpful.

Hatch Chicks This Fall.

[Written for Pacific Rural Press by Geo. H. Croley, President Federated Poultry Ass'n. of California.]

Since we have been running the series of articles on fall hatching of chicks, we have, until the past week received only letters of endorsement from experienced poultry keepers who have made it profitable to hatch fall chicks, or from interested enquirers seeking advice; but now we have two carrying more or less of the opposite flavor. Only one, however, from Mrs. Swaysgood, contains anything of an educational nature, the other is practically a simple display of contrariness without any advice or suggestion, which renders it unworthy of attention. We mention this because we urgently wish to hear from those who do not favor fall hatching or who may have been unsuccessful. There are, no doubt, locations where it may be unwise to undertake fall hatching. By discussing both sides of the question, all may be benefited; even those who have failed in the past.

Susan Swaysgood states: "Mr. Hull, of Mill Valley, asks Mr. Croley why breeders do not advertise fall chicks for sale. I think perhaps I can answer that question as well, if not better, than Mr. Croley, so I am 'butting in.' In the first place, eggs are usually higher in August, September, and October; then again, most hens are usually molting at that time, which interferes with fertility and hatchability. Now these three causes run the value of fall chicks up to a higher mark than most people are willing to pay. That is why the breeder makes no outcry about selling fall chicks. His would-be customers would expect to get them at summer prices and he can get more money with less labor out of his eggs."

Henry Johns writes: "I am now thoroughly interested and determined to try out the fall hatching plan, but I must acknowledge that when I read your first article in the Pacific Rural Press I was surprised at its contents, for the reason that it did not seem natural for the baby chicks to thrive in fall and winter. I have recently talked with several people who had formerly at one time or another hatched chicks in the fall in a limited way, and all stated that it was not difficult and that the results were satisfactory. In looking through the various journals with a view of buying either eggs or chicks this fall, I noticed an item in the Petaluma Weekly Poultry Journal of July 7 which you might wish to reproduce. The pullets mentioned were evidently hatched about October 10, 1914. This is the item:

"'Alex Lanoir, a successful poultry raiser who resides near Petaluma, has twelve White Leghorn pullets which are making a good showing in the way of egg production. Beginning Feb. 26, they laid 836 eggs up to July 4. They started to lay when about four and a half months old; and if they keep up as they have done, they will be some good birds. These pullets have not been forced for egg production, but have merely been kept separate from the rest of the flock and a record kept of their laying.'"

Farm Poultry for Profit.

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

From all quarters of the country word is coming in that the season of 1914-15 has been the poorest in many years for poultrymen of all kinds, but worse for the fancier than the rest.

Improvement Depends on Fancy.—When the fancy is driven to the wall, what have you left for the rest? The fancy is the backbone of poultry husbandry and until we had a good showing of fanciers—men and women who are willing to spend money and give time to try things out that promise better things for the whole—it was not a business.

There is a mistaken idea as to what are "utility" fowls. Of twenty inquiries I have received from average people, all want "utility," not show stock. This is because, as a rule, they are misinformed as to what utility and show stock means. They do really want good stock; if they did not, they would inquire about stock from the man who keeps any and all kinds, and can sell cheap accordingly.

Now my opinion of "utility" is a fowl that answers every purpose. If you have a hen that trapnested gives you 240 eggs in a year, then goes into the show room and scores 95¼ under a well known judge, you come pretty near having an all around utility hen. Then if nobody feels like giving a decent price for such a hen to breed from and after keeping her long enough to get all useful service out of her you can turn her off as ten pounds of chicken at 19 or 20 cents a pound, then you have a utility hen in very truth, a hen that has looked handsome all her life, thus giving her owner pride in the ownership and aspiration to breed more like her, and a hen that brings a fair price when the last touch comes.

When a person tells me that to him "a chicken is simply a chicken and nothing more," I tell him honestly that we can't make a deal, and that I have no desire to take his money.

Pay for California Stock.—The past season I have sold chickens at "utility" prices that could hold their own in almost any show on this coast, and whose sires cost me big money that no Californian would pay to me, yet if they sent east for the same quality they would pay it and think they had a bargain. This is one feature of the business that is not adjusted right. No easterners send money here for either eggs or stock, yet all eastern judges say we "have the goods" on the East because of our climate.

If it were not for the fancy, the poultry shows, poultry papers, and progressive farm papers, there would be very little interest in the poultry business, and it would fall back into the old groove when farmers kept a few dunghill fowls and let them scratch for a living. As a matter of fact the fanciers can't stand the racket: and a lot will have to go out of business if things do not change.

Score Cards Interest Amateurs.—Harry Collier, in "American Poultry Journal," says the blame for the hard times with fanciers lies in the style of judging. Score card judging, says Mr. Collier, is the only way by which the amateur can be kept interested in the game, and it is the amateur that is the backbone of the fancy. "Comparison shows end with the winners, they get all the glory." the amateur gets nothing, not even knowledge.

The amateur brought his birds to the show, not because he expected to win the blue, but because he hoped to gain the knowledge of his birds' weaknesses and failures. He does not come any more; because he knows he can't compete with the winners, and he gets no information by looking at the birds as they are cooped before him. And from experience I know he is right. One can't tell by looking at a bird just what he lacks to make him a winner, unless one knows the inside. I once had a beautiful Buff Orpington bird at Petaluma show; and when I went into the show room the old fanciers commenced to congratulate me on having "first" cock in Buffs. I asked if the judging was done and they said, "No, but there is nothing here that can touch your bird." I said "Well, I won't get the swell head till the judge says so." I knew what that bird would get when the judge handled him, and he got exactly what I expected. Some of the folks wanted me to protest, but I knew where the bird was weak and they did not. To all appearance he was perfect, but was imperfect in one thing, and that defeated him.

The comparison judge does not instruct the exhibitor as fully as the score card judge; the score card is there to refer to when the amateur is mating up his flock and if one of his birds shows a weak point he can put a male in that is strong where

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LIVING EXPENSES REDUCED THROUGH CO-OPERATIVE BUYING.—Open to all. Write for catalog and particulars. Organizers wanted. Pacific Co-operative League, Dept. D, 236 Commercial St., San Francisco

"SMITHS' PAYS THE FREIGHT."—To reduce the high cost of living send for our Wholesale to Consumer Catalog. SMITHS' CASH STORE, 106 Clay St., San Francisco.

PROTECT YOUR IDEAS—Write for free patent books. Patents advertised for sale at our expense. Advice free. Pattison and Company, 971 G Street, Washington, D. C.

TREES AND NURSERY STOCK.

WANTED—Any orchardist with sick, stunted or unproducing trees, to write to me for advice about handling the condition. A. M. Wells, 633 Van Nuys Building, Los Angeles, Cal.

BURBANKS SPINELESS CACTUS—Hardiest varieties Melrose and Special. Strong, mature slabs, $8.50 per 100; $50 per 1000. Labranza Ranch, Athlone, Merced Co., Cal.

GENUINE BURBANK SPINELESS CACTUS—Strong, mature slabs, $6 per 100—$50 per 1,000. Thos. Cathers, Morgan Hill, Cal.

LAND FOR SALE.

FOR SALE—Beautiful mountain ranch one mile from Nevada City. Nine-roomed house and outbuildings. Land highly cultivated. Trees, vines, shrubs, poultry, cows, horse and buggy. Abundance water. Address Owner, Ben Tonella, Nevada City, Cal.

CALIFORNIA LAND—Money-making little farms. High-class, low-priced in all counties. First mortgage loan on farms bearing 7 to 9 per cent. Call or write the oldest land office in California. C. M. Wooster Co. 303 Phelan Bldg., S. F. Catalog free.

CITRUS LANDS FOR SALE at one-half its value, near Lemon Cove and the famous Merryman ranch, on electric line. For description and price, write or call on A. G. Griswold, Exeter, Cal.

WANTED—To hear from owner of good farm or unimproved land for sale. H. L. Downing, 93 Palace Bldg., Minneapolis, Minn.

STOCK RANCHES for sale in Eastern Oregon. Principal only need apply. 2509 Prince St., Berkeely, Cal

Poultry Breeder's Directory

I HAVE ENLARGED my capacity to 65,000 egg room and can accommodate my customers better than ever with white and brown Leghorn chicks; also Barred Rocks and Rhode Island Reds. Indian Runner Ducks. Santa Clara Valley Hatchery, San Jose, Cal., B. B. 6 Box 336C. Phone S. J. 1889.

BABY CHICKS!! Barred Rocks, Rhode Island Reds Black Minorcas 11 cents; White and Brown Leghorns, 8 and 9 cents. First-class stock. Prompt delivery. Roofden Poultry Ranch, Campbell, Cal.

WHITE PLUMAGE Poultry Farm and Hatchery. Sells White Leghorns, Barred Rocks, Rhode Island Reds, Baby Chicks. Circular free. H. A. Schlotthauer, Exeter, Cal

GOING FAST AT $1.25 EACH—March hatched S. C. White Leghorn Cockerels from heavy layers. Every hen on the ranch trapnested. Hudson Bros., Escondido, Cal

BARRED PLYMOUTH ROCKS—"The kind that Win and Lay." Choice stock for sale. Catalog free. Chas H. Vodden, Box 396, Los Gatos, Cal.

CROLEY'S EVERLAY EGG MASH AND CROLEY'S SCRATCH FEED form a perfect balanced ration. Ask your dealer for them.

TRAPNESTED LEGHORNS—White and Buff Stock Eggs, chickens. Arthur R. Schroeder, Box 179E, Mountain View, Cal.

ORPINGTONS, BUFF AND WHITE, Black Minorcas and Carneux pigeons. Mrs. Susan Swaysgood, Pomona, Cal

TURKEYS, DUCKS AND GEESE.

HART'S STRAIN OF BRONZE TURKEYS—Young stock of both sexes for sale. Eggs by the setting or hundred. Also eggs from special matings. Albert M Hart, Clements, Cal. (Successor to Ed. Hart.)

CHICKENS, DUCKS, GEESE, GUINEAS, PEA FOWL Address Wm. A. French, 545 W. Park St., Stockton, Cal

HARES AND RABBITS.

BOSWORTH'S Imperial Red New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville, Cal.

BELGIAN HARES—Young stock for sale. Hurd Bros St. Helena, Cal.

the hen is weak. In that way, of course, the score card show is helpful, and with Mr. Collier I think it creates more interest in the amateurs, those who are just bordering on the fancy and need some encouragement. Every human being who is trying to do things better is worthy of encouragement and should have it.

Hens Molting.—My flock of hens had run of large alfalfa field; they are now confined to large, well-shaded yards, and in spite of increased feed the egg yield has dropped and the hens are beginning to molt. Am told that shutting hens up at this time of year is unnatural, and that hens will molt again this fall.

As far as that goes, the shutting up at any time of year is unnatural, and I fail to see any difference in time. The molt is most likely the result of a combination of causes, one of them being the change from bugs to bloodmeal. The hens will molt again, but not likely in the fall; it will be most likely to occur about late December or January and if they molt thoroughly now the other will only be a partial molt. The best thing you can do is to feed them well. Give plenty of green feed and get them through the molt as quickly as possible. Then you will have eggs just about the time they are worth collecting and keep them at it as long as possible.

Selecting Layers.—Can good laying hens be picked out, with any degree of certainty, from three-months-old pullets, or at any time, by the system of measuring between the pelvic bones? If not, which is the only reliable system?

No; the best you can do is with pullets near five months old, and pelvic bones is only a small part of the knowledge needed to pick out the layers. Get the Hogan system. It was advertised in the Press; don't know if it is yet, but write to Walter Hogan, Petaluma. He is the originator of the system which has been put in book form, and is perfectly reliable.

POULTRY NEWS NOTES.

T. E. Quisenberry, Sup't. of Poultry at the Exposition, is on a trip to the eastern states. He is due to return about July 24.

A proclamation by the Governor July 1 removes the quarantine restrictions that have for some months prohibited the movement of poultry into California. Domestic fowls may now be shipped into this State from any other state without permit or special formality of any kind.

A pen of purebred Rhode Island Red fowls bred by J. L. Harrison of California, finished the Queensland, Australia, egg-laying contest with a yearly average of 229 eggs. This demonstrates that fowls may be strictly fancy or show birds and at the same time may be the highest type of utility fowls. This is as it should be, but it is up to the poultry show managers to furnish the buying public with some sort of certificate which includes the utility rating of prize-winning fowls if the interest in poultry shows is to be encouraged.

AMERICAN AUTOMOBILE BILL

On June 1, 1915, the number of automobiles in the United States for the first time reached 2,000,000. Figuring on an average of four persons to each car, which is very conservative, there are 8,000,000 people in this country in daily enjoyment of motoring. What it costs to follow this sport is of interest, because of the stupendous figures involved. To run 2,000,000 cars for one year requires at the very least 1,000,000,000 gallons of "gas," worth $130,000,000; 20,000,000 gallons of lubricating oil, worth $8,000,000; 12,000,000 tires, worth not less than $16 apiece, or $192,000,000; accessories and extra comforts, goggles, gloves, and caps, $50 per car, or $100,000,000; garage charges on short tours (exclusive of gas and oil), $100 per car per year, or $200,000,000; repairs made necessary by wear, tear, and accident (exclusive of tires), $50 per car per year, or $100,000,000. Total running expenses for all cars in use $730,000,000. Add thereto the value of the 600,000 new cars purchased during the year, at an average price of $750, or $450,000,000, and we get the immense total of $1,180,000,000 spent in a single year (1915) on the sport [and business] of motoring.—Scientific American.

GETTING BEES OUT OF HOUSE.

To the Editor: How can I get rid of bees that persist in occupying the inside of my house.—H. B., Penryn.

[Answered by J. D. Bixby, Western Honey Bee, Covina.]

[The worst possible plan is to attempt to stop up all holes, to confine them; it can rarely be done. I have known bees to crawl 30 feet through the frame-work of a house and find an exit. If the brood-nest can be gotten at without too much damage to the building, the best plan is to cut out all combs and honey, destroy the bees by spraying with gasoline or distillate, and paint all adjoining woodwork with crude oil before replacing the siding or shingles. If this is not feasible, get a "bee-escape" from the nearest bee-supply house. Bore a ¾-inch hole into the bee nest as near as possible to their natural entrance and tack the bee escape over it. Stop up all other holes near with rags or putty. This contrivance allows one bee to emerge at a time, but none can return. When a bunch of bees has gathered over the escape, spray them with gasoline which will kill every bee. You will need to repeat this several times the first day, after that with decreasing frequency. In about three weeks, all will be gone, the escape can be removed, and all crevices closed with putty. The honey and comb inside will soon be destroyed by moths. Bees in chimneys can be destroyed by making a small fire and throwing on a handful of sulphur.]

ARIZONA CLOD MULCH.

In one of the dry farming districts of Arizona, County Farm Adviser A. L. Paschall is making a special effort to get the farmers to plow and summer fallow a portion of their land to be planted in winter crops next fall. It is believed that by plowing the land deeply sometime in June considerable moisture will be caught and retained from the July and August rains. It is recommended that after the first rains a disk harrow be run over the land followed by a spike-tooth harrow. Thereafter, following every rain, it will be desirable to cultivate. A special attempt will be made to maintain a mulch containing small clods—not a dust mulch. It has been found by the U. of A. Agricultural Experiment Station that a dust mulch is soon beaten into a hard mass by the pelting rains of July and August and the balance of the rainfall runs off, whereas a clod mulch is broken into smaller pieces and readily receives and holds the moisture without losing it by run-off.

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Key Route Ferry.



Now is the Time to Feed
Coulson's Egg Food

to your pullets as well as your hens, commencing at the age of three months.

Write for free book "Chickens" from shell to market.

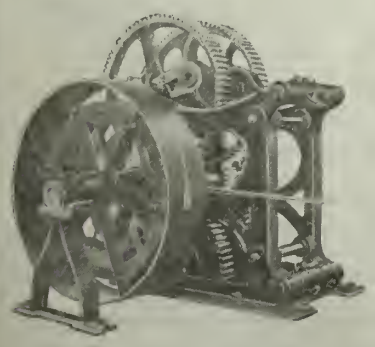
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For deep lifts, as well as shallow lifts, combined with high heads above surface and through long pipe lines. No auxiliary pump needed for forcing water above the surface.



Write for Catalog Number 104 with valuable information on Irrigation.

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POMONA, CAL.

California Poultry Practice

Written to Teach Better Poultry Methods on the Farm.
By Mrs. Susan Swaysgood.

Every poultry raiser of California should have this book. It is very practical and will help make your business profitable. In the preface of the book the author says:

"This book is not an accident; it is born of a desire to help others to avoid the stumbling-blocks in the poultry business, and at the request of many readers of The Pacific Rural Press, and other papers.

"With forty-two years of experience with poutry it is expected that I have learned a few things about it; it's a poor business that does not teach lessons in that length of time. Don't you think so?

"There are books, yes, books without number, on poultry matters, but many of them are mostly theory. This book tells you just what I have done and how I would do it.

"It is a book of action, and it is action that counts these days. We have to act in the living present if we want to live. I want to live and I want others to live, too, and as I have learned these things by experience it is fitting that I should tell others how to obtain results without paying such a big price for the experience.

"The things told you in this book are original, unorthodox, but strictly practical; and if you will read and then heed, you will be well satisfied that the author has given you your money's worth. California is an empire in itself, and I am sure there are enough men and women engaged in the poultry business, or wanting to get into it, to call for a million copies of this book, though its only claim is that it is needed."

The book contains 157 pages, besides illustrations. The 45 chapters cover every phase of poultry culture from eggs to hens, and from hens to market. Feeding, housing and parasites.

Price, cloth-bound, postpaid, $1.00.

Pacific Rural Press, Publishers

525 Market Street, San Francisco.

The Home Circle.

THE FOUR-LEAF CLOVER.

A little maid in a gingham gown
Went hunting the meadows over;
Till the birds were tired, and the sun went down,
She sought for a four-leaf clover!

For four-leaf clovers bring luck, they say;
And patchwork "stints" and dishes
Were tiresome duties every day.
She wanted some fairy wishes!

With dishes unwashed and "stint" undone
She trampled back home in the gloaming;
No four-leaf clover — no, never a one—
Was there to be had for her roaming!

A little maid in a gingham gown
Had washed all the dinner dishes,
Had finished her "stint" ere the sun went down,
Undreaming of fairy wishes,

When just at her feet, as she raced in play
The blossoming meadows over,
She found what the other had sought all day—
She found, yes, a four-leaf clover!
—Mary Clarke Huntington.

MISS BARBARA'S RASPBERRIES.

"I do hope that boy over at the uext house won't be troublesone," Miss Barbara murmured as she and Miss Julia carefully carried in the parlor lamp. "I just can't have him running out and in here half a dozen times a day tracking in dirt."

Miss Julia's words and tone were assuring. "If we don't take any notice of him whatever, I don't believe he'll trouble us."

So Robbie watched and waited in vain for an opportunity to make the acquaintance of his new neighbors.

When the goods were unloaded, the truck man went away with his span of white borses and big wagon. Miss Barbara and Miss Julia went into the house and shut the door, and the boy, who had been standing on the steps of the next house, went in to talk with his mother.

"They don't look half so nice as Mrs. Royce," he told her.

"But you cannot always tell how good and kind a woman is by her looks," his mother counselled.

"Who do you suppose will have the raspberries now?" Robbie asked after a pause.

"I think the new neighbors will want the berries themselves," his mother replied.

Down on the bank at the back of the house where Mrs. Royce had lived was a thrifty black-raspberry bush, and, as Mr. and Mrs. Royce did not care for the berries. Mrs. Royce had given Robbie leave to pick them whenever he liked, which was a privilege that he greatly appreciated.

Brother Roger and father were talking about Godfrey de Bouillon, about whom Roger had been reading, and Robbie's attention was attracted, for he always liked to hear about great men

How grand the Crusaders must have looked, marching along, shouting their war-cry, "It is God's will," each man with a red cross embroidered on the right shoulder! Robbie and mother talked about Godfrey de Bouillon when father and Roger had gone to town. Robbie asked a good many questions about the great Crusader who was willing to forgive an injury to himself if good might come thereby.

"I think it's almost as hard to forgive people when they treat you badly as it is to fight battles," Robbie said thoughtfully.

Robbie spent that morning working in his flower-beds at the back of the house. There was a little strip of land at the back of Robbie's house and the house where Mrs. Royce had lived, where flowers grew luxuriantly. Mrs. Royce gave Robbie a little set of gardener's tools, divided her packages of flower seeds with him, and taught him how to plant the seeds the first year that she lived in the cottage; and since that time he had been an enthusiastic gardener. In the afternoon he thought he would go down on the bank just to see if the raspberries were ready to be picked. As Robbie stood looking at them he wondered if the new neighbors had noticed that the berries needed picking. Then he picked one and ate it; it was delicious. He picked another and ate that, and then another; and then—then some dreadful cold thing came dashing with such force as almost to knock him down. He screamed, and turned to meet Miss Barbara with an empty water-pail in her hand.

"Why, are you here?" Miss Barbara asked in well-feigned surprise. "You better keep right away from this raspberry bush, for I'm going to take the best of care of it. I presume I shall wet it every day this warm weather, and you'll be liable to get wet again if you're over here."

Robbie did not wait to hear more. He ran for home as though for his life. When he reached his mother's arms he cried as he had not cried for a long time, and between his sobs his mother could distinguish these words: "I hate the stingy old thing! Yes, I do!"

Miss Julia met Miss Barbara as she same in at the back door.

"What did he say? I saw you gave him a good wetting."

"He didn't say anything, but he made tracks for home, and I think he'll stay there now."

"But don't you suppose his folks will be dreadfully put out about it?" Miss Julia asked apprehensively.

"If they keep on their land, I shan't trouble them; but just as long as we pay our rent here we're going to have what belongs to us, and we're not going to be troubled by boys, either," Miss Barbara replied in a very decided tone.

Somewhat later the two ladies were greatly surprised to see the "troublesome boy" coming up the front walk.

"What on earth can he want now?" Miss Barbara ejaculated.

There was a timid knock at the door, and Miss Barbara answered the summons. There were still traces of tears on Robbie's face, but he spoke bravely.

"I didn't pick but just three of your berries, but of course I hadn't any right to touch one. Mrs. Royce didn't care for black raspberries, and she always gave them to me, so I guess I was so used to picking them I didn't think; but I won't never do so again. I thought you must be real busy, seeing you've just moved in; and won't you please let me pick the rest of them for you to make up for what I ate? I won't eat one single one of them," he added impressively.

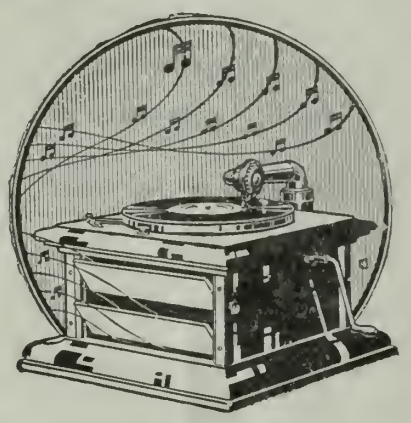
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Miss Barbara stared in astonishment.

"We are pretty busy, but I guess we can find time to pick them ourselves," she said hesitatingly.

"But I want to make it right, and I can't think of any other way; and I wish you'd let me do it," Robbie pleaded.

And Miss Barbara surprised herself and her sister by saying, "Well, if you want to so bad, you may."

Then she brought a bright tin dish from her pantry for Robbie to pick the berries in. After Robbie left the house, the sisters looked wonderingly at each other. Then Miss Julia broke the silence.

"He's a perfect little gentleman! But I should think he would not have dared to come over here again. Don't you suppose he hated to?"

"I don't believe he enjoyed it very much," Miss Barbara said meditatively.

Oh, Miss Barbara, you never dreamed how hard it was to come.

When Robbie came in, the dish was heaping full of berries. "I picked every one that was ripe," he said smilingly.

"I think you must have," Miss Barbara replied. "I want you to take some of them home, for you have more than paid for the few you ate."

"Oh, I don't want to, indeed I don't!" Robbie protested earnestly.

Miss Barbara could see that he meant what he said, so she forebore to urge the matter; but as Robbie was about to go home she said apologetically,—and it was a very unusual thing for Miss Barbara to apologize,—"I guess you're a real good boy after all, and I'm afraid I was too hard on you; but I know we shall be friends hereafter."

"Here comes a conqueror, I am sure," mother said, with one of her brightest smiles, as she opened the door for Robbie when he returned.

"Yes, I conquered. It was awful hard to do, almost as hard as some of Godfrey de Bouillon's battles, I guess; but I'm so glad I did it, for she says we're going to be friends."
—Jessie L. Britton, in the Presbyterian Banner.

"Somebody said that it couldn't be done,
But he with a chuckle replied
That 'maybe it couldn't,' but he would be one
Who wouldn't say so till he'd tried.
So he buckled right in with the trace of a grin
On his face. If he worried, he hid it.
He started to sing as he tackled the thing
That couldn't be done, and he did it.

DESIRE UNBOUNDED.

Recruiting Officer — You want to enlist, eh?

Irish Recruit (enthusiastically)—Yes, sir—for the duration of the war, or longer if it lasts!—London Opinion.

"What are your plans for the summer?" "Further exploration, I suppose," answered Mr. Muvings. "I am going to keep on looking for some place that carries out the impressions I get from the pictures of the summer resort postcards."—Washington Star.

A cupful of liquid yeast is equivalent to half a compressed yeast cake or a whole dry yeast cake.

PROPER METHOD OF STEWING MEATS.

Select the tough pieces of meat for stews. One important fact that Miss Mary Sutherland of the Home Economics Department of Washington State College is endeavoring to impress upon the housewife is the fact that a cheap piece of meat which contains much refuse may be much less economical than a higher priced one, all of which is eatable. Cuts which may be used are usually selected from beef, lamb, mutton or veal; such as the plate, naval, neck, shoulder, lower part of the round skirt steak, aitchbone, etc. Stewing is a method of preparing meat by extracting juice to flavor gravy, and retaining the juice in the remainder by searing the meat. Wipe the meat and cut into suitable pieces for serving. Meanwhile, divide into two portions, add one portion to cold water and heat to the boiling point. Set the other portion by browning in a little fat in a frying pan. Then add it to the water and meat. The whole should be cooked slowly for three hours, or until the meat is tender. Meat with some bone and fat makes a richer stew than one made with lean meat. Onions, turnips, carrots, parsnips and potatoes are the vegetables commonly used in stews. The vegetables should be cut into half-inch cubes or quarter-inch slices and added the last hour of cooking. The potatoes should, however, be parboiled five minutes, then added to the stew, allowing twenty minutes for the cooking. Sweet herbs, parsley, a bit of bay leaf, one or two cloves, celery salt, or catsup may be added to give variety. Salt and pepper are the usual seasonings. A nice way is to cook the vegetables separately.

Beef Stew—2 lbs. beef, 3 tablespoonsful flour, water, 1 turnip, 1 carrot, 2 onions sliced, 4 potatoes, salt and pepper, half bay leaf. Prepare according to above directions.

Place of Meat in the Diet.—Authorities seem to agree in the estimate that in the United States about one-third of the total expenditure for food materials is for meat. They also agree that when the total expenditure is one-sixth for meat the dietary will be more economical and also better balanced.—A. A. C. Bulletin.

AN INVIDIOUS INQUIRY.

It is related of the president of a famous college that at one time he allowed his wife to persuade him of the uselessness of fire insurance on household goods, and he allowed his policy to lapse, says the Circle Magazine. But better judgment asserting itself, he finally renewed his insurance. The same day a fire in his wife's rooms destroyed some of her dresses, which the professor enjoyed as a good joke.

In due time the president of the insurance company wrote President Blank this letter:

"Dear Mr. Blank—We inclose check for $500, paying your fire claim under our policy B6007.

"I note in passing upon these papers that the policy went into effect at noon, December 10, and the fire did not occur until 3 p. m. Why the delay?"

When frying mush it improves the crispness if the mush is dipped in white of an egg before frying.

TWO ANGLERS.

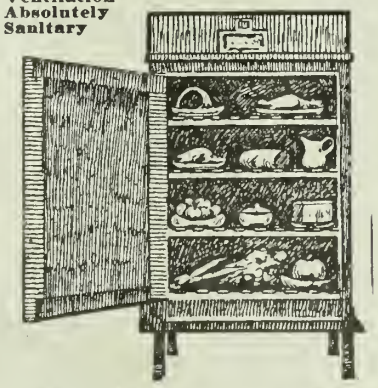
A barefoot boy,
A white birch pole;
A can of worms,
A swimming hole.
A baited hook,
A tug and swish;
A steady haul,
A string of fish.

A white duck suit,
A canvas boat;
A costly rod,
A patent float,
A gaudy fly,
A cast and swish;
A pretty sight,
But nary fish!
—Boston Herald.

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No Ice Required

Perfect Ventilation Absolutely Sanitary



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"California Garden Flowers." $1.50 Postpaid. Pacific Rural Press.

Is Your House Over-run With Ants?

Read the Following Simple Method of Exterminating This Plague.

A house over-run with ants is not a pleasant proposition, but it is not the serious matter that it used to be. There was a time when it was practically impossible to rid a house of ants. Now, however, it is comparatively a simple matter.

This is due to the fact that a paste has been discovered which appears to have an almost supernatural power over ants. It not only drives them out of a house or store immediately, but keeps them out afterward. Thousands of enthusiastic testimonials bear evidence as to its efficiency.

This remedy is being put up for general use under the name of Kellogg's Ant Paste and can be obtained at all druggists. It is the little sentinel which will guard your house against ants. Try a package today and be convinced.

"The Farmers Friend"



In Handy Buckets Also Small Cans

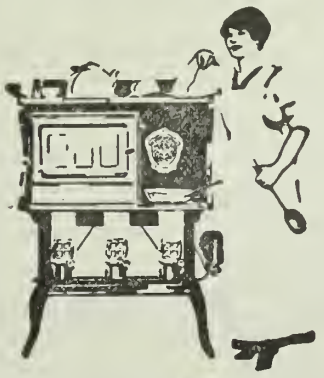
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Heat concentrated on the cooking, not spread through the room.		Heating up the kitchen when it's already 90 in the shade.
Ready, like gas—full heat in a minute.		Bothersome — waiting for the fire to burn.
Adjustable heat — a slow fire or a hot one.		Difficulty in getting the right heat.
Heat only as long as you need it.		Waste of fuel before and after actual cooking.
A clean, cheap fuel — easy to handle.		Wood and coal to haul—dirt and ashes.

New Perfection Oil Cook-Stove

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(California)
San Francisco

The Markets.

Unless otherwise noted prices are f. o. b., San Francisco.

San Francisco, July 14, 1915.

WHEAT.

The market has revived somewhat during the week. With improvement in the export outlook, eastern markets have advanced, and local milling interests have been buying. Locally practically everything is higher.

Cal. Club, ctl	1.72½ @ 1.75
Forty-fold	1.75 @ 1.80
Northern Bluestem	1.85 @ 1.90
Northern Club	1.72½ @ 1.75
Northern Red	1.75 @ 1.85

BARLEY.

There has been some inquiry for export, and from all indications the market has reached bottom. Offerings are coming out slowly, and fairly large spot sales have been made at a material advance over the last quotations.

Choice Feed, ctl	$1.10 @ 1.12½

OATS.

There is very little movement in oats at present, but there is a good deal of inquiry from Australia, which is expected to send the market up very soon. Old stocks are light, and there is little new stock offered yet.

Red Feed	$1.35 @ 1.45
White	1.45 @ 1.50

CORN.

The corn market is very quiet locally with light offerings of California stock and no heavy demand. Occasional shipments continue to appear in the Orient.

California Yellow	$1.75 @ 1.80
Eastern Yellow	1.80 @ 1.85
Milo Maize	1.75 @ 1.80
Manchurian	1.40 @ 1.60

BEANS.

No further change in local prices is noted, but the values are practically nominal, the price actually paid depending on the conditions surrouding each transaction. Business continues very quiet, and offerings appear sufficient for current needs, though any large inquiry would be likely to cause an advance. It is still too early to get much of a line on the new crop.

(On Wharf.)

Bayos, Cal., per ctl.	$3.50 @ 3.75
Blackeyes	5.50 @ 5.65
Cranberry Beans	3.50 @ 4.00
Horse Beans	2.25 @ 2.75
Small Whites	4.00 @ 4.15
Large Whites	3.75 @ 3.90
Pink	3.15 @ 3.40
Limas	4.00 @ 4.15
Red Kidney	4.90 @ 5.00
Mexican Reds	4.90 @ 5.00

SEEDS.

(Wholesale prices, San Francisco.)

Alfalfa	17½ @ 18½c
Brown Mustard, per lb	Nominal
Canary	10 @ 12½c
Hemp	3 @ 3½c
Millet	2½ @ 3 c
Timothy	7½ @ 8 c

HAY.

Arrivals here were light for a few days, but are now increasing again. They still consist mainly of old hay, most of it of rather poor grade, and does not move off very readily; though choice lots sell readily at somewhat better prices than have lately prevailed. Some new hay is moving at about the same price as old. It is reported that local consumers have not yet started to buy on a large scale, and a more active movement may accordingly be expected later on. Buying in the country is limited, buyers showing a disposition to hold off a little. Alfalfa from the river district is very fine in quality, and finds a good market.

(Prices per ton, carload lots, on track, San Francisco.)

No. 1 Wheat, per ton	$10.50 @ 12.00
do. No. 2	8.00 @ 9.00
Barley	6.00 @ 9.00
Tame Oats	7.50 @ 11.50
Wild Oats	6.00 @ 8.00
Alfalfa	6.50 @ 9.50
Stock Hay	5.00 @ 5.50
Straw, per bale	.40 @ .45

FEEDSTUFFS.

Rolled barley is slightly higher, corresponding with the advance in the whole grain. Other lines show no change, and current business in most lines is rather quiet.

(Wholesale prices per ton, carload lots, San Francisco.)

Alfalfa Meal, ton	$14.00 @ 15.00
Alfalfa Molasses Meal per ton	18.00 @ 19.00
Bran, per ton	29.00 @ 30.00
Oilcake Meal	None here
Cocoanut Cake or Meal	25.00 @ 26.00
Cracked Corn	40.00 @ 41.00
Middlings	34.00 @ 36.00
Rolled Barley	24.00 @ 25.00
Rolled Oats	33.00 @ 34.00

VEGETABLES.

The local demand for garden truck has picked up for the last few days, but large offerings in many lines have prevented any marked improvement in prices. The best offerings of string beans are doing a little better, though there is still plenty or ordinary stock. Celery is now coming in from the South, and brings higher prices; while lettuce from the river district is lower. Supplies of asparagus have been considerably in excess of requirements, selling down to 75c, with canners' prices even lower. Peppers have dropped sharply, with ample offerings from nearby districts, and eggplant is quite cheap, while cucumbers have stiffened up a little. Green corn is moving well, but the best will not bring over $2 per sack.

(Wholesale prices, San Francisco.)

String Beans, lb	1½ @ 4 c
Lima Beans	5 @ 8 c
Celery, So., doz	75c
Lettuce, crate	50 @ 1.00
Asparagus, box	75 @ 1.00
Peas, sack	1.00 @ 2.00
Peppers, bell, lb	4 @ 6 c
Tomatoes, crate, Merced	50 @ 75c
L. A., lugs	1.50 @ 2.00
Rhubarb, box	50 @ 65c
Cucumbers, lug	90 @ 1.25
Eggplant, lb	3 @ 6 c
Summer Squash, lug	20 @ 50c
Green Corn, sack	1.00 @ 2.00
Okra, crate	.75 @ 1.25

POTATOES AND ONIONS.

The Stockton potato market is developing some activity, with large shipments to northern markets, though prices show no improvement. Onions are moving slowly, but prices are a little better, as some growers have withdrawn their offerings from the market.

New River Potatoes, ctl	75 @ 1.10
Onions, yellow, sk	60 @ 70c
Red, sk	60 @ 70c
Bermudas, crate	85 @ 90c
Garlic, per lb. new	5 @ 6c

POULTRY.

Eastern stock is again rather plentiful, but local offerings are coming in slowly, and while the demand is nothing extra values are pretty well maintained. Broilers have been marked up a little, and extra hens are firm. Ducks are weak, while Belgian hares have been marked up a little.

(Wholesale Prices, San Francisco)

Live Turkeys, lb	15 @ 17 c
Broilers	21 @ 22 c
Fryers	21 @ 23 c
Hens, extra, per lb	16 @ 17 c
Small Hens, per lb	13 @ 14 c
Smooth Young Roosters, per lb.	24 @ 27 c
Squabs, per doz	$2.00 @ 3.50
Geese, per pair	2.00 @ 2.50
Ducks, young, lb	13 @ 14 c
Old	12 @ 13 c
Belgian Hares	7 @ 8 c

BUTTER.

Arrivals from the north continue very heavy, and caused a ½-cent decline in extras for a few days. With further export orders to be filled, however, no continued weakness is expected.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	26½	26	26	26	26½	26½
Prime Firsts	25	25	25	25	25½	25½

EGGS.

The firmness following the holiday has given way to a rather easy feeling, with lower prices on extras, as arrivals from nearby producing points have been very heavy.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	26	26	24½	24	25	25
Firsts	21½	21½	21½	21½	21½	21½
Sel. Pul.	22	22	22	21½	23	23

CHEESE.

Monterey cheese is lower again, with excessive offerings. Fancy flats show a ½-cent advance, the first change in some time.

S. F. Dairy Exchange prices on flats and Y. A.'S)

Y. A.'s, fancy	12½c
Fancy Calif., flats, per lb	11½c
Monterey Cheese	10 @ 12c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	25	25	25	25	25	25
Cal. Cheese	12	12	12	12	12	12

DECIDUOUS FRUITS.

Seedless grapes find a strong demand, and clean up readily at an advance, while malagas bring still higher prices. The berry market is off again for most lines, black logans being very cheap, while good reds are higher. Strawberries and blackberries are much lower, while currants have advanced sharply. Cherries are about cleaned up. Plums are steady as before, and figs have advanced sharply. Good apricots in lugs are lower, with large arrivals, and bulk peaches are also plentiful and fairly cheap. Offerings of cantaloupes dropped off somewhat, bringing higher prices, though larger supplies are expected. Watermelons still bring fairly high prices for this time of year.

Loganberrics, blk, chest.	$1.00 @ 2.00
Loganberries, red	3.00 @ 5.00
Strawberries, chest	3.00 @ 5.00
Raspberrles, chest	4.50 @ 7.00
Blackberries, chest	3.00 @ 4.00
Currants, chest	4.00 @ 6.00
Plums, crate	50 @ 85 c
Figs, bx, single layer	60 @ 85 c
double layer	75 @ 1.25
Apricots, crate	50 @ 60 c
Lug	65 @ 85 c
Pears, Bartlett, box	1.00 @ 1.75
Other varieties	75 @ 1.25
Peaches, crate	55 @ 80 c
Small box	40 @ 55 c
Lugs	75 @ 1.05
Apples, new Red Astrachan, box	$1.00 @ 1.35
Apples, Gravenstein	1.50 @ 1.75
Cantaloupes, crate	1.50 @ 2.00
Watermelons, lb	½ @ 1½c
Grapes, crate, Thompson Seedless	1.25 @ 1.75
Malaga	1.50 @ 1.75

DRIED FRUITS.

Local packers are still holding off in regard to new-crop purchases, taking only what they can pick up at low prices, and growers as a rule are not disposed to force the market. The distributive trade is operating conservatively, as for some two years past, and there is a lot of low-price talk going around. Current offers for new prunes are even lower than before, which seems strange in view of the heavy demand for spot goods for England. In fact, it is expected that considerable forcign business will develop for various lines of dried fruits. A steamer leaving for England the first of the month took about 133 tons of peaches, in addition to substantial lots of apricots, prunes and apples. New apricots are being shipped, and sell within the range quoted. The outlook for peaches is still very doubtful, with prospects of an unusually heavy dried pack and little demand. Seedless ralsins are in strong demand, and higher prices are offered in some quarters. The New York Journal of Commerce says:

"A strong market still prevails in spot prunes, hut there is little change in the conditions which have characterized the market since the first of the week. The advance in prices which was made by one of the principal holders of prunes both here and on the Coast yesterday still holds and the inside price of 10c for California 40s to 50s is probably very hard to find. The price on this size which the largest holders are asking of the buyers is 10¼c.

"European inquiry continues to come in and sales are in prospect. English brokers, it is said, have shown no inclination to lose their interest in this market and are expected to be buyers of the new crop when it arrives here about the middle of October. Until then the supplies which are sold must necessarily be of small quantities as the stocks here under the steady sales of the past week have been diminished considerably. California 40s are apparent in about as large quantities as any size in spite of the inroads which have been made in the last few days on this favorite size. The sizes below 60s are becoming very scarce and only minor trading is being done in them as a result.

"Fancy seeded raisins are strong and the tendency seems to be an upward one. The European demand has taken care of quite a share of the available spot stocks, and inquiries continue to come in, which brokers feel confident will develop into sales within a short time."

(Prices to Growers.)

1915 crop.

Apricots, per lb	5½ @ 7 c
Figs, white	3¼ @ 3½c
Black	2¼ @ 3 c
Calimyrna	4½ @ 5 c
Prunes	2½ @ 3 c
Peaches	2½ @ 3 c
Pears	5 @ 8 c
Raisins (in sweatbox):	
Loose Muscatels	4 @ 4½c
Seedless Sultanas	5 @ 6½c

(San Jose prices to Growers, 1915 crop.)

Apricots, per lb	6 @ 6¾c
Prunes, subject to dist.	3¼ @ 3½c
Peaches	2½ @ 3 c
Pears	5 @ 8 c

CITRUS FRUITS.

The eastern auctions are paying good prices for Valencia oranges, though there has been a drop of 10 to 15 cents per box. Lemons are very low—the prices received on auction being below the cost of packing and transportation, in some cases.

At New York on Monday, July 12th, Valencias averaged from $2.80 up to $4.40 per box; Navels averaged $1.55 up to $2.20; St. Michaels $3.20. Lemons sold as low as 90 cents and up to $1.90 per box. A few days of hot weather in the East are needed to remedy the lemon situation.

Shipments from southern California for the season to July 11th, were, oranges 29,426 cars, and of lemons 4,900 cars, as against 31,817 cars of oranges and 2,251 cars of lemons to same date last year.

San Francisco prices are held as last quoted, Valencia oranges finding a very fair demand even at the advance, while grapefruit and lemons are moving freely.

(Wholesale Prices, San Francisco.)

Oranges, Valencias, bx.	$2.75 @ 3.50
Grapefruit, seedless, box	2.00 @ 2.25
Fancy	2.50 @ 3.00
Lemons, box	1.50 @ 3.50

NUTS.

Spot offerings of all lines are very closely cleaned up, and even occasional lots of rather unattractive appearance have been disposed of to advantage. It is too early to say much of the outlook.

(Prices f. o. b. San Francisco.)

Almonds, 1915 crop:	
Nonpareil	17 c
IXL	14½c
Ne Plus Ultra	14 c
Drakes	12½ @ 13 c
Languedocs	11 @ 11½c
Walnuts:	
Jumbo, lb	19 c
No. 1 Softshell	16½c
Budded	18 c
Ungraded	8 @ 10 c
Manchurian	6 @ 11 c

HONEY.

A little extracted orange and sage honey has come from the south, being offered at about the range quoted, but the amount so far is small. Stocks here have been fairly well cleaned up. Comb finds a fair demand, and is steadily held as quoted.

Water White, comb	12 @ 15 c
Light Amber	8 @ 10 c
Water White, extracted	5 @ 7 c
Light Amber	3½ @ 4 c
Dark	2 @ 3 c

LIVE STOCK.

The only quotable change this week is a slight decline in live sheep, which are now being offered more freely from several quarters. Cattle prices are well maintained on the former basis.

(Prices at San Francisco.)

Steers, No. 1	6¼ @ 6½c
No. 2	6 @ 6¼c
Cows and Heifers, No. 1	5½ @ 5¾c
No. 2	5¼ @ 5½c
Bulls and stags	4 @ 5 c

Calves: Light			9 c
Medium	8	@	8½c
Heavy	6	@	7 c
Hogs: Grain-fed:			
200 to 300 lbs.			7¼c
100 to 200 lbs.			7¾c
Prime Wethers	6¼	@	6½c
Ewes	5½	@	6 c
Suckling lambs	8	@	8½c

DRESSED MEATS.

Steers	10½	@	11 c
Veals, large	12½	@	13 c
Small	14	@	15 c
Prime Wethers	12	@	13 c
Ewes	11½	@	12 c
Suckling lambs	14½	@	15 c
Hogs	12	@	12½c

WOOL.

The Eastern demand remains fairly strong, and the California clips are gradually cleaning up, though no large sales have been reported recently.

Humboldt & Mendocino	18	@	27c
Wool, Sacramento Valley, lb	18	@	22c
Southern, year's staple	15	@	18c
Six months	14	@	16c

HORSES.

There is not much feature to the local horse market, perhaps owing to the vacation season. Little stock is coming in, and there is no urgent demand for anything here, though desirable heavy stock is disposed of without much difficulty.

(Approximate values at San Francisco, based on auction sales.)

Heavy drafters, 1700 lbs. and up	$275	@	300
Light drafters, 1550 to 1650 lbs.	175	@	200
Chunks 1350 to 1500 lbs	150	@	175
Wagon horses, 1050 to 1350 lbs.	100	@	140
Green Mountain range horses, 950 to 1200 lbs	50	@	90
Farm workers	60	@	75

MULES.

1200 lbs and up	$225	@	250
1100 lbs.	200	@	225
1000 lbs.	150	@	175
900 lbs.	125	@	150

HIDES.

The eastern hide market is extremely strong, and local tanners are also buying rather freely, keeping offerings closely cleaned up. Only a few minor changes in price are noted.

Heavy Steers, over 56 lbs	16	@	16½c
Medium	16	@	16½c
Light Steers, under 48 lbs			16 c
H'vy Cows, over 50 lbs.	16	@	16½c
Light Cows, 30 to 50 lbs	16	@	16½c
Kip	16	@	17 c
Veal			17½c
Calf			18 c
Dry Hides	27	@	28 c
Dry Kip, 10 to 15	26	@	27 c
Dry Veal, 5 to 10			31 c
Dry Calf, 7 down			31 c
Horse Hides—			
Salt: Large			$3.00
Medium			2.50
Small			1.00

HOPS.

There has been considerable business in new crop hops at the range quoted, but the market is hardly so active at the moment.

1915 crop, lb	8½	@	11 c

SPECIAL DECIDUOUS MARKET REPORT.

By J. L. Nagle, Sacramento, July 13.

The expected slump in the Eastern markets occurred almost immediately after the Fourth of July. This slump was more noticeable east of the Missouri River, due principally to the fact that shipments from the Eastern states are now arriving in heavy supply, though the varieties are confined almost exclusively to white peaches. This slightly stimulated the demand for yellow peaches, but this demand was confined to the middle west markets.

Elberta peaches from Georgia, Texas, Oklahoma and Arkansas will be moving this week on account of California being two weeks late, the enormous tonnage the Eastern states will contribute will more seriously affect shipments from this state from now on for the next three weeks than any condition that has prevailed to date. We look for extremely low prices on California Elberta peaches. The same condition will govern other deciduous fruits more or less.

Blue plums seem to have the first call, and good-sized, well-packed Bartletts will meet with a ready demand, but we do not look for any relief from present conditions until after the 10th of August.

Our advice to growers is to pack nothing but the best quality of fruit and confine their grades to large sizes.

Reports are current that mildew is developing in some sections of the Tokay districts, but hardly enough damage is expected to further affect the crop.

Early Malagas and Thompson Seedless are now moving in car lots from the Coachella and Imperial Valleys. The berries are good-sized and well sugared. We look for an active demand on grapes throughout the season if shipments can be regulated.

The following prices have ruled for the week:

New York—Tragedy Plums averaged $1.18; Burbank Plums, 83c; Formosa Plums, 90c; Climax Plums, 80c; Simoni Plums, 86c; Santa Rosa Plums, 97c; Wickson Plums, $1.90; Kelsey Plums, $2.20; Bartlett Pears, $2.52; H. B. Comet Pears, $1.85.

Chicago—Royal Cots, 98c; Triumph Peaches, 71c; Climax Plums, 82c; Burbank Plums, 75c; Tragedy Plums, $1.38; Red June Plums, 73c; Formosa Plums, $1.00; Santa Rosa Plums, $1.06; Simoni Plums, 91c; Wickson Plums, $1.06; H. B. Comet Pears, $1.40; Bartlett Pears, $3.00.

Boston—Alexander Peaches, 74c; Climax Plums, $1.00; Tragedy Plums, $1.50; Burbank Plums, 95c; Santa Rosa Plums, $1.33; H. B. Comet Pears, $1.25; H. B. Wilder Pears, $1.08.

Total shipments to date, 2205 cars; total shipments same date, 1914, 2817 cars.

THE SANTA CLARA VALLEY DRIED FRUIT MARKET.

A little more life is apparent in the dried fruit market than at last writing although there is not any quotable change in prices, with the exception of the price for the best apricots. Certain brokers express a willingness to give 7½ cents for fancy lots of cots but practically no sales are being made. Canners have bought a few cots at $20-$25 per ton, but many growers who have sold to canners in the past are drying their fruit. The fact that export agencies have sought prices on fifty carloads of dried apricots for France and on large lots of both prunes and apricots for export to England indicate that the export market is not wholly dead or dormant. Many apricot growers report attacks of the brown rot; in some instances a 10 per cent loss is feared. There is no change to report in the apricot pit situation, in fact the bulk of the pits in this valley have been sold.

To quote prices on prunes is difficult as there are practically no sales going on. In attempting to buy the packer asks the grower to state his price. When told that it is five cents or better the buyer leaves without making an offer. Almost absolutely no buying seems to take place. The prune aphis is still in evidence.

When a Certain San Francisco Shipper

announces to the trade that he will cut the Exchange's net or lowest price on new crop almonds, regardless of what that price may be, it serves as an object lesson to every grower who has been indifferent to the necessity of co-operative marketing.

CALIFORNIA ALMOND GROWERS' EXCHANGE,
311 California Street, San Francisco, Cal.

Publisher's Dept.

A letter received from G. W. Gibson of Willows states that: "Am selling a bull a week and sometimes two, and will change my ad. when times are worse."

One hundred and ninety-three new paid subscribers were added to our list during the past week, which is a fine record for the summer season. Our field is to be congratulated on doing fine work in all districts from Del Norte county to San Diego and from Santa Clara to the interior of Nevada.

Note the advertisement in this issue of the new book by Prof. Woll of the State Farm, on Feeds and Feeding of live stock. You ought to have a copy of this book.

Lieutenant G. S. Bryan, of the Naval Engineering Experiment Station, Annapolis, Maryland, in a paper published in the Journal of the American Society of Naval Engineers for February, 1915, says: "Oils made from asphalt-base crudes have shown themselves to be much better adapted to motor cylinders, as far as their carbon-forming proclivities are concerned, than are the paraffine base Pennsylvania oils. The carbon formed from the latter is, as a rule, extremely hard and clings to the metal surfaces, while that from the former is soft and can easily be wiped off any surface that it is deposited on. This would be expected from a consideration of the nature of the hydrocarbons composing the oil, and it has also been demonstrated in practice. The explanation lies in the fact that the paraffine-base oils are generally composed of the paraffine series of hydrocarbons, while the asphalt-base oils are composed mainly of the ethylene and napthene series. One of the characteristics of the latter two series as compared with the paraffine series is their tendency to distill without decomposition. Consequently, no gum will be formed on the cylinder walls, and the carbon liberated will be mostly discharged with the exhaust gases."

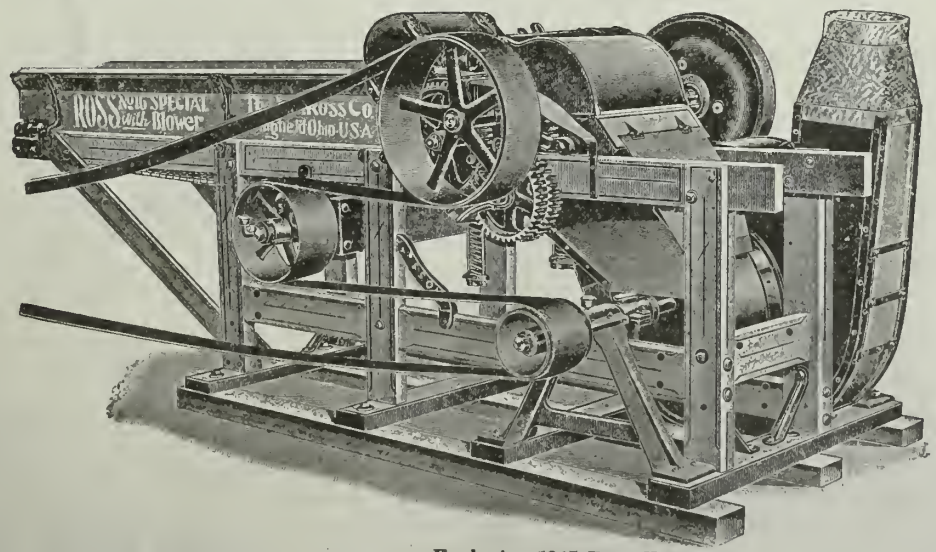
ONE VETCH AND ANOTHER.

To the Editor: I send you two specimens of forage. One is worthy vetch, the other is a cheat. Vetch here on our hill or orchard land is the most useful and valuable plant we can grow, making two good cuttings, and the last one can be used for the seed or it may be pastured all summer and grow every year as tall as six feet on hill land. It twines up grain sowed with it, fences, or young trees. If not cut or pastured, will raise a heavy crop of seed same as the second crop will and it should be sowed by every orchardist and farmer of Sonoma county. It has a bright pea-like bloom.

The other plant has been sold here the last few years for vetch. Whatever it is, it is not worth the name of vetch. It grows wild in many parts of the State and should stay wild and not be propagated as it is worthless. [illegible]loom of it, as you notice, all hangs on the under side of the stem and when it seeds it is very sparingly. For feed, my stock have run on it all summer and I cannot see that they have eaten a single stalk of it, and I am sure they will not. Many have been disgusted and have condemned vetch because they got the worthless stuff. While the seed resembles vetch seed, it is only half the size and has a very dull, doubtful apearance. The sale of it for vetch should be stopped.

Sebastopol. J. M. Robinson.

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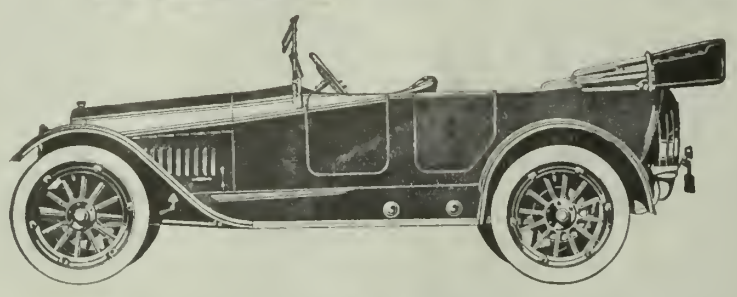
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Proof That as Growers Really Co-operate Along Business Lines They Can Get What Money They Need.

[Written for Pacific Rural Press.]

MONEY makes the mare go.'' Money right now—not a month, three months, or six months from now. The falsified expression quoted may be due to the special need of spot cash by farmers, whose financial credit for borrowed money has been unnaturally restricted. Dilatory financing of members of co-operative associations, where crops could be sold to competitors for cash, is probably the greatest reason for lack of wider organization of farmers.

We were recently told by a dried-fruit packer about a large fruit-grower who is financially well off, could get any reasonable credit at his bank, has money loaned out to various parties all over the valley, but about the time the fruit is on the tray, he gets a fever, and helps along in the stampede to sell and get his money, though his stampede gets him less of it.

After investigating the failures of many co-operative organizations, R. E. Straborn, an Oregon railway president, told the Oregon State Horticultural Society: ''A tremendously strong reason for failure was found in the long period which usually elapsed between time of delivery of produce and the day of final settlement for the pool. Most farmers were not financially able to carry their expenses for the three to eight months' period which was usually required. They preferred to sell for cash at a less price, which often meant a losing price.''

Analysis of the systems of the State-wide co-operative associations of California shows that practically all of them pay more or less to their members on delivery of the crop, though there are still some whose members are compelled to wait until the closing of the pool, which may be a week, or three months, or six months.

Realizing the importance of this feature, after decades of co-operative organization funerals in the Fresno raisin district, a successful organization was evolved, having for its foundation, a crop contract whereby growers get a set price when the crop is delivered to the company. This is made possible by the very heavy capital stock.



It is of no use to raise good crops of any kind unless they can be marketed at a profit. Growers properly organized and well managed can and do regulate prices to a profitable level, in a better way than by pulling up the trees.

Walnut Growers Advance Money.—One of the most successful co-operative organizations of farmers in the West is the California Walnut Growers' Association, whose manager, Carlyle Thorpe, writes: ''I believe that the success of any growers' co-operative association depends to the greatest extent upon the association's ability to so finance its operations as to promptly pay the grower for the goods delivered.

''It is a peculiarity of the average California grower, but nevertheless a well-known fact, that he is very anxious for his money as soon as his crop or any part of it is delivered. All co-operative associations should endeavor to meet this requirement as nearly as possible. The value of public opinion should no more be overlooked by the management of a co-operative association than it should by the executive head of a government. With this important feature always in mind, the walnut association has so systematized its business as to enable it to pay its association members 90 per cent of the full association prices the minute each shipment of walnuts goes forward or is ready for shipment. Thus the grower secures a large per cent of the value of his walnuts within a week after he has delivered each load to the packing house.''

How Almond Growers Built Credit. — Another strong story of the growers' organization building up a remarkable bank credit in the face of persistent opposition, is told in Manager T. C. Tucker's own words:

''The California Almond Growers' Exchange was incorporated May 7, 1910, under the co-operative horticultural law of the State without capital stock.

''During 1910 the best financial arrangement that the Exchange could make was a loan of 50 per cent of the value of its drafts with shipping documents. The same arrangement was the best they could get for 1911. During 1912 the bank agreed to loan 75 per cent of the value of our documents. In 1913 this was increased 15 per cent; the bank agreed to loan 90 per cent. During 1914 the bank would loan not only 90 per cent against shipping documents, but agreed to loan 75 per cent against the goods in our warehouses, the value of the almonds being based on the

(Continued on page 79.)

PACIFIC RURAL PRESS

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California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at p. m., July 20, 1915.

STATIONS	Rainfall Data: Week Past	Rainfall Data: To Date Seasonal	Rainfall Data: to Date Normal	Temperature Data: Max'm	Temperature Data: Min'm
Eureka	0	.20	.11	80	48
Red Bluff	0	0	0	102	64
Sacramento	0	0	0	100	56
San Francisco	0	.01	.01	79	52
San Jose	0	0	0	90	48
Fresno	0	0	0	104	60
Independence	0	0	0	96	..
San Luis Obispo	0	.01	.01	86	50
Los Angeles	0	0	0	88	58
San Diego	0	0	0	80	60

THE WEEK.

Saturday, July 17, was the day fullest of emotions in the history of San Francisco—excepting, of course, the days of the great disaster. Not only were these emotions great in volume, but they were high in aspiration and sweet in quality—high and sweet, because they were the outflow of exalted patriotism from the American heart. All the lofty aims which actuated the founders of the republic, all the deep significances which have inhered in the motives and purposes of the preservers and promoters of the Nation for more than a century and a third, seemed to impress themselves most profoundly upon the thought of the million of Americans who gathered in the California metropolis on that day to honor the coming of Liberty Bell and to glorify the glorious things it stands for in the eyes of the world. It was a day of unparalleled enthusiasm and of unrestrained rejoicings—once seen, never to be forgotten. Three thousand miles from the birthplace of the republic, where in 1776 it rang out to the people the tidings that a nation was born upon the issue that "all men are created equal and that governments derive their just powers from the consent of the governed," Liberty Bell is now swinging beside the Pacific Ocean and announcing the same glad fact to all mankind. Probably all, who felt their hearts beat faster at the thought, realized that never before did the successful establishment of this nation mean so much to the world, and never did the token of the event impress the people so deeply. Hon. Champ Clark, Speaker of the House of Representatives, gave words to that fact when he declared, in his oration over the bell: "Now, thanks be to Almighty God! there are twenty-six republics in the world. In a large sense we made them, every one—not by the mailed hand, not by conquering armies, but by the wholesomeness of our example by teaching all creation the glorious fact that men can govern themselves." And of course every one thought of the sad state the eastern world has come into because of kingly and class domination, and therefore, how fortunate that the western world cast itself free from these oppressions when Liberty Bell rang out the Declaration for which it will be honored while brass endures. Every one thought also of the fact that the unspeakable miseries of the present war are due to people-trampling by ruling classes, and the cure for it is the same as that which Liberty Bell pealed forth in 1776. Dr. Jordan, speaking of the hopelessness of fighting the war to a finish, said this: "There is no such thing as crushing militarism out by militarism. The people only can save from militarism. Once militarism is out of the way there is nothing to hinder making a United States of Europe as firm as the United States of America."

And when that day shall come, as come it must if men are men, Liberty Bell will have its greatest pilgrimage to make. To that end the precious token will be most jealously guarded during its five months' sojourn at the Exposition.

Alfalfa, Raw and Manufactured.

Mention has been made in recent issues of large movement of alfalfa hay from California ports to Europe and to Australia. To the latter country we are glad to contribute help to save stock from the famine through drouth, and it is not to be discussed as an opening for California produce because Australia can usually grow all the hay she has any use for and more. The movement to Europe, which is being initiated this year with large shipments both by the Panama Canal and by rail for shipping from Galveston, is of alfalfa hay from the upper San Joaquin Valley. This is an outlet for California alfalfa which has been prophesied and anticipated to be a way by which over-supply of alfalfa can be avoided and prices steadied above the cost of production so that slumps like that of 1914 need not recur. The Atlantic seaboard and Europe can certainly use much California alfalfa, and now that cheap shipping by canal becomes possible, there is likely to be a good margin in it. Both as baled hay and as meal California alfalfa may be said to have a promising foreign field. But we should never forget that an agricultural country which ships out hay is on a toboggan toward loss of soil fertility. Some one may claim that this is not true with alfalfa, for alfalfa will make the soil richer no matter what you do with the top growth. Such a claim is a mistake. It is not so rapid in reducing fertility as when grains and grasses are cut for hay and sold off the ranch, is true; but land will become clover-sick and the alfalfa plant must have something else than atmospheric nitrogen and water to live upon. Selling alfalfa hay is therefore like selling other hay, except that it works on a slower schedule. It is a very easy, clean job to get rid of the stock and run the ranch for hay. It is so attractive that it has injured the land every time a great city has arisen and drawn its forage supply from the country. More than half a century ago Orange county was famous as the producing region of milk and butter for New York City, but the hay demand arose and the cows were chased out of Orange county Later, the same change struck the Mohawk Valley, and later still the cows were displaced in more remote parts of New York and New England. After the cows disappeared this nice, easy hay business ran for awhile, and then the "abandoned farms" sensation of the last decade appeared. Therefore, we say to those who are rejoicing over the expansion of a hay business, do not be too glad about it. It will be profitable for a time; perhaps for quite a long time on some lands, but the final result is sure, and when that comes energetic and expensive recuperative processes will be necessary to restore land which has been allowed to cheapen itself, until doubt comes in as to whether it is worth the taxes. The products to sell from an alfalfa ranch are breeding stock and meats of all kinds, wool, butter and eggs, etc, but not hay—except in moderate amounts. But if all the alfalfa goes into these products, and thus becomes manufactured and not raw, will there be a market for all that alfalfa should be made into? That is a question which we propose to discuss systematically in a series of special articles, by various writers who are especially informed; but in a word we say: "Yes—all the animals and animal products which California can produce will be well placed in the world." Why this is true will appear in later issues.

A Fundamental Reason.

Having thus referred the question we will not, of course, proceed to discuss it, but we can not help saying that the reason why all good animals will be better in California than elsewhere is because the growing conditions are better. All animals get quicker, more even and profitable development because, when properly handled, they go straight along without setbacks or handicaps. And we never say that without remembering a time when we were holding forth some years ago on that subject to a bunch of upper-class Germans, who were sent to California, by societies to which they belonged, to report to them whether what they were hearing in Europe about California was really true. It was on a stock farm near Stockton, and there happened to be a pigpen and a bullpen not far apart. Part of the visitors had their noses over the pigpen, looking at a fine boar, and the others were looking through the rails of the bullpen at a youngster who was charging around therein. The owner was between the two, shouting answers to each bunch as he could. It happened that a visitor on each side shouted out the same question at the same moment: "How much does he weigh?" The answer came loud and clear: "Twelve hundred pounds." The man who was looking at the pig straightened up, muttered under his breath: "Es macht nicht mehr als finf hunert pfund!" and marched away to an irrigation ditch, sticking his hand into it to see if the water was wet. All the rest of the day he was the most peeved German we ever saw. He could judge the weight of a pig; he had been lied to about it; probably he had been lied to all along; he would listen to nothing more.

But, fortunately, in this matter of superior growing conditions for animals in California there is testimony which cannot be controverted or misunderstood, for everybody will be looking at the same thing, and that the best in the world. At the Exposition, recently, the federal physicians in charge of the United States Children's Bureau made a thorough and comprehensive medical examination of sixty California babies, and after the last tot had been examined, Dr. Frances Sage Bradley of Washington, in charge of the bureau, paid her tribute to California as a baby-raising State in

these words: "We have kept careful records of all our examinations, and these show that in different parts of the country there is practically no difference in the average weight of babies at the time of birth. But the examinations we have made here show conclusively that the Western babies grow faster and get a quicker start toward robust health than the babies of the East. I am not surprised at what our examinations have shown, and it is only natural that the California babies should thrive wonderfully. Out here you have no tenement conditions to combat, and you have the best climate and food."

And the same conditions which make for the best baby men physically, make also for best domestic animals if they have artificial environment to match the natural conditions. This is California's first point of advantage in the animal industries as in world-beating manhood.

Another California Capability.

But while we contend that the same conditions make for the quick and ample growth of men, horses, horned cattle and swine, we are aware that we must put in a word to lessen the disgust of those who object to the grouping of babies with colts, calves and pigs. Our defense must be, of course, that the early physical development of a man fits him for his future work, just as the early growth of a domestic animal does, and it is the character of the future work which must involve the differentiation. The principles of early growth are the same, whether they enable the mature animal to haul a few tons of dead weight, to turn a few tons of forage into butcher's meat or dairy produce, or to make Californians greatest among mankind. And what do the philosophers say of possible attainments by those who are now, or may soon be, California babies? Professor Stockton Axson, brother-in-law of President Wilson and one of the foremost literary critics of the country, in his lectures at the Summer Session of the University of California, expressed this view of our approaching achievements: "Not because I am talking to a California audience, but because I really believe it, do I repeat a declaration I have made in the East, as well as here, that we may look to California for large things in literature. Western writers are free of the conventional restraints that I have found elsewhere. They have a daring that, though it may trouble effete critics, wins where it astounds. They are possessed of a simple forthrightness that combines well with a broad outlook upon men and things. I cannot help feeling that out of such fountains of literary creation as the Bohemian Grove, distinctly Western as it is, must come production worth while, sublimating the promising efforts which already your West has made." In fact, Professor Axson even acknowledges that he anticipates from Californians manifestation of that "epic quality" which has slumbered since the days of Dante, Goethe and Milton. And our contention is that, if Californians do attain such lofty heights in service of mankind, it will be not only because the California open-air life makes stature and breadth of physical frame fit to enclose daring freedom of thought and spirit, but because in the ancestry of California world-workers there has been stowed away great volumes of good foods—fruits, butter and cheese, fowl, fish and eggs, thick steaks and thin pork chops. It is therefore clear that not alone for triumphs at a baby show, but for the inspiration of the world, our leading forage product should not be hay for its own sake, but grass and hay for local manufacture into finished food products in great variety—foods which make men great for manly purposes in the world.

Queries and Replies.

Querists must give name and address.

Garden Training of Raspberries.

To the Editor: Kindly inform me if it is wise to trim raspberry bushes at this season, and if so how much? Of course ours are different heights—some are six feet long and some three or four.—A. C. H., Oakland.

The new canes which are now growing may be pinched or cut off at about four feet, or higher if you choose. Whenever a cane reaches the height you decide upon, pinch off the tip of it and this will give you uniformity, which improves the appearance of a garden row of raspberries. When stopped in this way, the canes will cease rising and will make side-branches or laterals on which your next crop of fruit will appear and these laterals give the plants a denser or more bushy appearance. To support them, they should be tied to stakes or to a wire stapled to posts in the rows. Later in the season the canes which fruit this summer should be cut away at the ground surface. They have finished their work.

Grading after Planting.

To the Editor: I have 20 acres of almonds set out this spring. Our ground is not level enough to irrigate properly. Do you think it advisable to level off between rows and make about a 4-inch border squarely in the row? Would this put the trees too deep in the ground? Our soil is rather heavy, yet I think it would seep through a small 2 ft. border.—Reader, McFarland.

This is a reminder of the advantage of preparing land for irrigation before planting—even if planting is delayed to do it. The danger to the trees by such subsequent leveling as you propose, depends upon how deeply they are covered and the character of the soil. In sandy soil they may stand several inches of covering; in heavy soils it is very dangerous to cover at all deeper than the root-crown. In such soils trees are lost every year by too deep planting. Sometimes land lies so that you can put in contour levees each spring and by dodging across the rows get a pretty even distribution of water in contour checks. Sometimes it is so hummocky that no even distribution can be had, except by using slip-joint pipes. If you decide to level the interspaces, we would rather let the rows go as they are than to fill around the trees—but that will give you an orchard surface for cultivation which will make you mad as long as you live.

Tomatoes Dropping Blossoms.

To the Editor: Can you give reason for a tomato plant dropping the fruit buds after they have blossomed out in a nice healthy flower? As soon as the petals wilt, the stem follows suit and the fruit drops off. The foliage has a rusty appearance in one spot but I do not know if that affects it. The rust does not spread.—Reader, Modesto.

The reason generally is that the plant is making too rank growth. If you push the plant to too active vegetative growth, by too much irrigation on rich soil or on too heavily manured soil, or if such soil is naturally oversupplied with moisture, you are apt to lose the blossoms and get no fruit until later in the season when the plant growth is slowed down. Therefore one should be very careful about using too much water; or, if the soil is naturally too moist, as on low land, planting should be made later—after these forcing conditions are reduced. Sometimes better setting of fruit can be induced by topping the plant—that is pinching or topping off the shoots, a distance above the bloom. Sometimes good results are reported by fertilizing with phosphatic and potassic manures, free from nitrogen—if the land is too rich therein. The main point, however, is to guard against too rapid growth by using too much water, or by allowing excessive moisture to escape by slacker cultivation. Early in the season fruit may be dropped by too rapid temperature changes, but not at this time of the year. The rust you speak of is not prevalent enough in your case to cause the trouble.

Gypsum Cannot Replace Drainage.

To the Editor: In February, 1913, I applied about 1500 pounds of gypsum to the acre to a very stiff adobe I have, planted to young vineyard. Last fall, before the rains, on another spot of the same soil I put on gypsum at the rate of two tons to the acre. I did this to take the "stickiness" out of the soil, as I read several articles about this in your Press. The land is very hard to plow and mean to handle, and after last winter's rainfall it was nearly impossible to do anything with it. I would like to know if it is really going to do it? I put the gypsum on a small piece only, but find absolutely no difference in the working of the land—just as sticky as ever and hard to work, even where I put the heavy application on. I intend (if it is going to do the work as claimed) to apply more gypsum for the balance of my adobe. I have about three acres in all. Now I hesitate to spend any money just for the sake of helping fertilizer companies unless I get my results, or does it take a generation or two before it will work, or is it a University theory? I intend to put the gypsum on in October and harrow or cultivate it in.—T. C. G., Concord.

To the Editor: "The land in question has some slope, but a year like last, when we had considerable rain, the water runs over it quite a lot and it gets pretty wet and the water stands. In the two dry years the ground worked pretty fair. I think myself the water question is the main trouble, although I thought by putting the gypsum on this would correct the trouble regardless of water. The land has a fall or one or two feet per hundred—not less. It is not a "hog waller" for drainage, and by plowing a furrow across, the water will run pretty good except when there is continuous heavy rain. Then it will spread out and stand for several weeks, which packs and makes the ground awful hard to plow when dry enough. The land above me, where some of the water comes from, extends only about one-fourth mile, from there it slopes the other way.—T. C. G., Concord, Cal.

The second letter was written in answer to ours, in which we guessed that the trouble was lack of drainage, and suggested that gypsum is of little avail where water seeps onto the land and stays there too long. Lime would not help the situation any more than gypsum, but it might pay to dig a deep ditch along the upper side of the place to carry away the seepage from above, and lay tile drains in lines rather close together to drain the wet fields. Then gypsum or lime, a ton per acre, would take out the "stickiness."—Editors.

TO THE Editor: If the Pacific Rural Press would organize its subscribers into one large social society, out of it would spring the greatest co-operative society any State could be proud of. We could have a day at the Panama-Pacific Exposition that would mean something, and your paper would double or treble its subscribers. Everyone would want to get in. We could appoint delegates to meet at each county seat and form our Pacific Rural Press Social Adjunct, and with your advice marketing would become effective.—L. D. T., Corcoran.

We are appreciative of the sincerity and cordiality of this suggestion and are thankful for it. Our conviction is, however, that such a basis of organization would be unfortunate in one way at least. It would throw us at once under suspicion of urging organization for our own sakes through extension of the business of this journal and no lasting and effective organization could thrive under imputation of such a motive, nor would this journal be made permanently prosperous if it should appear that we were selfishly scheming in that way. In a small way it would be "stealing the livery of heaven to serve the devil in"—we consenting, in this case, to be the devil simply to complete the figure.

Rural Press readers are already organized. They have weekly opportunity to express their sentiments and beliefs and to receive ours. Their work should not be to form a close corporation of members to possess the truth for their own advantage, even though they multiplied tenfold by such effort. They and we owe a duty to the State and to all the people. Our Rural readers should go forward into leadership of local effort for organization in every community. We shall be glad if they light their torches at our altar and forge forth to wake all who are now sleeping. We are glad to lead but not to try to encompass what belongs to the people.

How to Stop Dried Fruit Speculation.

[Written for Pacific Rural Press by G. E. Merrill, San Jose.]

How much longer are dried fruit producers to endure the evils of speculation in dried apricots, prunes, and peaches? Marketing conditions in the dried fruit business this year are largely due to past and present speculation, which is but another term for gambling. In any gambling game a few individuals prosper at the expense of many. The few who prosper are likely to be the more aggressive ones of those who participate in the game and because of their aggressiveness claim and receive more consideration than they are in justice entitled to. Naturally the successful aggressive gamblers in the dried fruit game are in favor of continuing the present system, even though it be harmful to the interests of the majority interested. It is the influence of these successful men, and they are not all packers and middlemen, that prevents the proper co-ordination of the interests of the various classes concerned in the production and distribution of California dried fruits.

Although producers, middlemen, and consumers, all at times feel the evil effects of speculation, it is the producer who most frequently and severely suffers. That the middleman is sometimes pinched by an unlooked for turn in the market is a statement with which some of the more militant proponents of the movement to shorten the road from producer to consumer may not agree. And yet, only last year a large part of the prune crop was bought by bull operators on a 5-6 cent basis before they had sold much fruit. Later, growers who had not sold became stampeded and let their prunes go for 4½ cents or less. In what position, then, was a packer who had acquired his full capacity on a higher basis? This year conditions may be reversed and the grower may be the one who pays the price of speculation. In fact, to a grower the present market situation bears all the earmarks of competition among the packers to sell to their customers and of co-operation in buying from the grower. If these are indeed the conditions the lot of the grower is not an enviable one.

There is a certain element of justice in the fact that the evils of speculation fall most heavily on the producer as he is, perhaps, the most to blame for it. Through effective organization the dried fruit growers have it in their power to place the dried fruit market on such a basis that they and not the middlemen would have the dominant voice in saying what the price of the wares they produce should be. We are aware that attempts have been made and are now being made to bring about this organization. In the past as at present the difficulty of financing these movements has been the greatest obstacle to their success. That this difficulty is unnecessary and that it can be eliminated is the opinion of J. H. Bone, a well-known fruit grower of the Santa Clara Valley. Mr. Bone believes that ample capital has already been put into the fruit packing business and that workers for co-operation ought to strive to bring about a mutual understanding between packers and growers rather than to induce growers to finance new projects of their own. In short, the best kind of co-operation would not destroy the capital already invested by the packers, but would insure to it a just return. An effective, aggressive organization representative of all interests concerned in the dried fruit business would consider the welfare of the business as a whole, and would look to the exploitation of new markets in the future as well as to the proper development of the industry within the state.

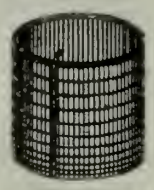
Mr. Bone points out that to cure many of the present marketing evils an organization of a majority of growers to agree each year simply to hold their fruit under any circumstances until the market and crop conditions had been thoroughly surveyed and studied would be sufficient. To illustrate: If 75 per cent of the prune growers of California would agree not to sell any prunes until the first of July or later, would any packer dare to sell short at a figure unremunerative to the grower? On July 1, say, for prunes, and at an earlier date for apricots, a committee of growers who were thoroughly familiar with crop and other conditions might meet representatives of the packers and there agree on a minimum price that would be equitable to all concerned.

A growers' organization of the sort outlined in the foregoing need cost but little, a few cents per acre, perhaps. Its power for good would be felt immediately, and ultimately it would exercise a controlling influence in the dried fruit market. Best of all, such an organization would not antagonize the various other co-operative influences that are now at work, each one of which would, of course, be represented at the conference at which equitable prices were agreed on. Through the efforts of the organization, growers who are financially weak could be given credit until the proper time for selling had arrived. Thus one of the principal sources of strength of the short selling bear operator would be eliminated. The time is past for the most effective organization for the disposal of the crops of this year, but prompt action even now might do much to help. At any rate no opportunity must be lost to agitate this matter thoroughly and at least to attempt to have an effective organization in the field before another year rolls around with market conditions even worse perhaps than those of this season.

George E. Merrill.

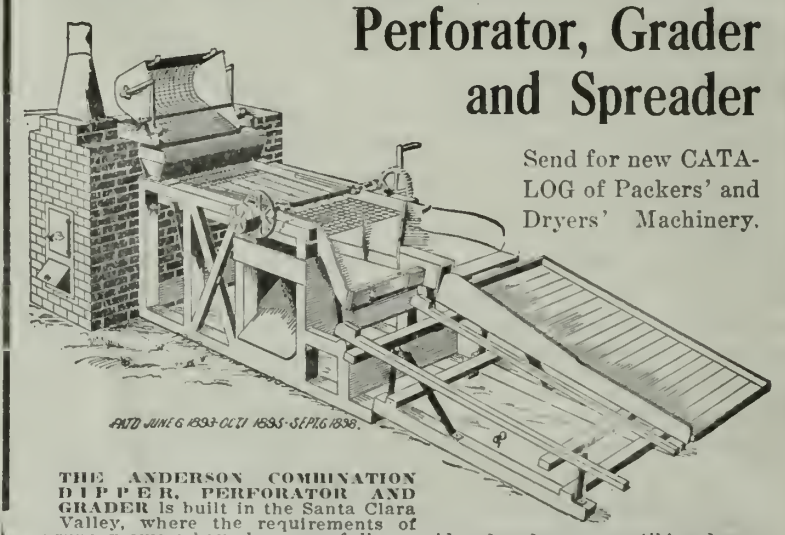
On July 15, the first carload shipments of melons left Turlock.

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THE ANDERSON COMBINATION DIPPER, PERFORATOR AND GRADER is built in the Santa Clara Valley, where the requirements of prune growers have been carefully considered and every possible advantage incorporated into the machine. Can be furnished with or without rinse tank. Made in various sizes for hand or power.

SEND FOR 1915 CATALOG.

It illustrates and describes the entire Anderson-Barngrover line of Fruit Packers and Dryers' Machinery. A copy will be sent free to all who are interested. A postcard will bring it.

See our Exhibit in the Palace of Horticulture at the Panama-Pacific Exposition adjoining the Cuban Gardens, which are under the Big Glass Dome.

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Geo. D. Kellogg & Son.	Pioneer Fruit Co.	Vacaville Fruit Co.

California Fruit Distributors

CHAS. E. VIRDEN, General Manager,
SACRAMENTO, CALIFORNIA.

Test for Sugar in Grapes.

To the Editor: A law was recently passed by the California legislature requiring table grapes to test 17% sugar. In this little pioneer valley we have never had any experience in making a test of this kind and don't know how to go about it. We want to make the test now in order to find out whether we can meet the requirements.—W. C. C., Thermal.

[H. F. Ellis of the Cal. Fruit Exchange calls attention to the fact that the law specifies the use of "Balling's Test." A Balling saccharometer costs $2; a glass tube to hold the juice during the test costs about 50 cents. The saccharometer looks about like a big thermometer tube, and shows on its face the corrections that must be made for varying temperatures of the juice. E. M. Sheehan, secretary of the State Viticultural Commissioners, writes as follows:

"The standardization statute passed by the last Legislature will be in operation August 9, 1915. Testing is a simple process. Only a tube for the juice and a standardized float, or saccharometer are required. Let the grower gather a few average samples from his vineyard consisting of half a dozen bunches of grapes. Place them in a piece of cheesecloth or burlap and crush them, allowing the juice to filter through the cloth. Put the juice in a glass tube about 1½ inches in diameter and about 10 inches deep. It makes no difference about the size of the tube, except that the quantity of juice must be sufficient to float the saccharometer.

"A standardized saccharometer for grape may be obtained at any wholesale drugstore or chemist's establishment, and with it the sugar reading will be made almost instantly. To obtain an absolutely correct reading the juice should be of the temperature of 60° Fahrenheit. The stem of the saccharometer will then show the correct sugar reading at the line where the surface of the liquid rests against the stem of the gauge. The operation need not require five minutes."]

CROP INFORMATION ESSENTIAL.

To the Editor: While reading your and other farmers' journals I often wonder what we would do without the papers which we get delivered at our doors. There is much to learn from this kind of reading, yet it is strange to me why we find sometimes statements which are far from the truth and working a hardship on the farmer. Farming, as we know by experience, is not a very profitable business nowadays. Hay (alfalfa and grain) is very low. Last year we sold our alfalfa in the winter and spring for $4.00 per ton. Figuring the cost of production at $3.00 there would be left $1.00 per ton to pay for taxes, interest, etc. This is not so every year; if it was the farms would be left without tenants. Would it not be right for the farmers' journals to let their readers know about the conditions of crops and about the future prices of the same? We all know that alfalfa is short this year. This is also true of oats and other kinds of hay. About thirty per cent of the alfalfa lands in Modesto and Turlock districts were plowed up. The first crop was spoiled by rain to the extent of about 40 per cent and the second and third crops are very light. The nights were too cold. In these two districts the alfalfa crop will be short at least 300,000 tons. Nearly all dairies will be short on feed. This is also the case in the Sacramento valley, yet the newspapers keep writing about big crops, which will keep the prices down and will bankrupt a good many farmers.

The prices will of course be a good deal higher later in the season, but how will that benefit the farmers who have to meet their bills at present. The dairy business is the most profitable, although it is not as good as before. Even with the importation of butter from Australia stopped the prices are low, and if everybody should feed their alfalfa to cows the result would be very low prices for butter and cattle. In my opinion it is the best to have this divided, but I believe the papers could help the farmers a little by not helping the exporters or merchants by misstatements of crops, but by telling the truth about it.—A Subscriber, Modesto.

[Our correspondent presents a real and fundamental need of farming—a thing essential to widely intelligent and profitable production of crops. This journal, and our contemporaries of the better class also, are always alert to state facts about crop prospects and crop conditions. For our own sake we can say that we have neither inclination nor interest in stating facts about crops and prices otherwise than as they actually are. But it is not within the power of this or any other journal to secure the facts as completely and promptly as they should be had to possess the value which they should present. The outlay required to collect and collate these facts is beyond the resources of any journal. They do what they can under the circumstances. It is properly a government duty because it is for the benefit of all the people—except a few who live by getting the start of others. The U. S. government crop reports are creditable from a national point of view, but for local uses each state should make its own reports and secure publicity for them by the co-operation of all local farm journals. Just now there is a new ray of hope for such things. The new "State Commission Market" law has machinery for it. We must wait and see how it will work.—Editors.]

CAREFULLY PICKED ELBERTAS.

[Written for Pacific Rural Press.]

Whether Elberta peaches shipped fast will bring a profit will depend largely on the care with which they are picked and on their size.

W. A. Harter of Modesto picks five or six times in order to get them in just the right condition for shipping. They must be almost entirely green, but must be laid easy in the buckets to prevent bruising even though they are hard.

He doesn't like to ship East because one must lose a third of the weight by picking them so green. He says they grow one-third large in the two or three days just before they start to turn yellow.

For shipment to California points he picks them when they have a light cream undercolor all over. Though if they are half green on the under side they can go along because they would ripen too much before the next picking. If Elberta are red and still have a green under color, for local markets one must wait until they have a yellow ground color over at least half of the peach.

Mr. Harter has arrangements with the shippers to furnish the shook and send packers out to the ranch, thus avoiding the jar and bruising caused by hauling unpacked peaches over the roads. The culls which the packers throw out are cut for drying, but this on the large orchard of Mr. Harter is not very much because the pickers are careful.

WOMAN GROWS BEST APPLES.

[Written for Pacific Rural Press.]

It takes a woman to grow Gravenstein apples, according to Mrs. Ida Hunt of Sonoma county, because a woman is not so impatient of details.

Before the first ones ripen, Mrs. Hunt cultivates her ground fine so that no clods are left for the fruit to fall on and bruise. She picks the fruit up every morning so that other fruit will not fall onto it, and so it will not sunburn. This dropped fruit is all cleaned off with a cloth and sold as No. 2 grade; if it is bruised noticeably, it is dried. She picks the apples for the first grade sometimes as often as every 10 days.

Mrs. Hunt will be remembered as the winner of sweepstakes prizes at recent apple shows. A ten-box entry made by her scored 999 out of a possible 1000 points. Commercially, her apples demand a premium for foreign shipment. Last July she had an order for 500 boxes to go to Alaska at $1.75 f. o. b. Attention to details has paid.



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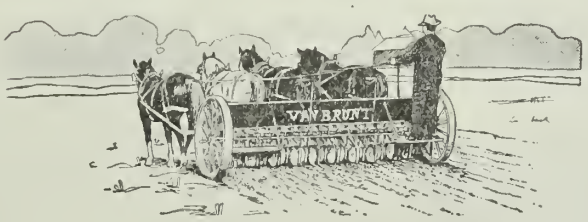
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Grading and Packing Lemons.

[Written for Pacific Rural Press.]

Down in Orange county we asked a lemon packer how the markets were. "Very bum," said he. We did not wonder when we saw the way his men dumped the lemons from the grader into sacks and then into boxes and handled them without gloves or care. He admitted considerable loss from blue mold and laid it to the rainy weather. We thought of the good reputation in the Eastern markets of the San Dimas Lemon Association and of the care they use in putting up seven or eight hundred cars per year, the product of about 300 grower-members.

When they are ready to ship a car, after the fruit has been cured, it is sent up from the curing room to the packing room by an elevator and carried directly to cotton-gloved men and women, who grade the fruit for texture and quality, and lay it on 2x3 trays, 3½ inches deep, so they can be stacked up without danger of injury to the lemons.

In grading the fruit, they take out all the rots and record the exact number from each lot belonging to each grower caused by each different kind of trouble. These records are made on a "grading bench record" card, which also shows the grower's number, the lot number, the number of boxes, and the weight of the culls, the number of trays, and the weight of each of the three qualities of tree ripe fruit. The total weights of all these grades and the culls are added together as a check on the weights made for that grower's fruit when it was washed.

The various grades of lemons packed by the San Dimas Association are labeled so that when a customer finds what he wants he will call for that brand again. The Pet brand is its fanciest product; the Greyhound next; the Duck is third; and the Arab and Pup are the "tree ripe" brands.

Handle Like Eggs.—A lemon dropped to the floor is never packed; an uninjured lemon with whiskers of mold on the outside and no apparent injury is washed off with a moist sponge, but if sooted for lack of washing, after black scale has encouraged soot fungus, it is sent back to the washing room. There are only a few culls on account of the care previously exercised in picking and curing, and as mentioned elsewhere there is only about one-fourth of one per cent decay.

The proportion of first grades and lower depends on the care of the orchard. For instance, if the trees have not had enough irrigation, there is a larger percentage of lower grades. As the lemons are graded, they are picked up and laid down in the trays like eggs, in one layer. The trays hold about one-third of a packed box and have tray paper in the bottom to prevent bruising and getting dirty.

Packing.—Stacks of the trays are carted to the packers, of whom there are about as many as there are graders. There were eighteen one day last February when they had not expected to work, but had gotten an order for a car. There are 48 packers sometimes, and the minimum working force is 12 packers when the outfit is least busy in August, September and October. The packer watches the tray and selects first those that will grade 300 per box. Each lemon is wrapped in a printed label and all are packed tightly in two-compartment boxes 10⅜x13½x25 inches net. When all of the 300's have been picked out, she calls "tray back," and a man pulls it out of the way. When all of the 300's have been picked out, she goes through the stack of trays again for the 360's; then for the Jumbo's, which pack 270 per box; then for the 442's, which are the last packed.

An average nine-hour day's work is about 38 boxes of all sizes, but each packer must put her own number on each box so that any slipshod work may be traced if such should escape the eye of the foreman. Packers are paid by a sliding scale from $2 for 30 boxes up to $2.70 for 40 boxes, if they are packed in first-class shape.

VINEYARD SOIL CRACKING.

To the Editor: Would you advise irirgating Thompson seedless grapes now, as they have not been irrigated this season? The ground is getting very dry, and I am afraid the grapes will be small. The soil, which is heavy black, is cracking open.—W. W. D., Arboga.

[The cracking of your soil indicates its dryness on top, which must be due to lack of proper cultivation on such heavy soil. It may be necessary to give it a light irrigation in order to soften the dirt enough to cultvate not very deeply but well. Before giving it a heavy irrigation, use a soil auger and find out how deeply it is dried. If you find moist earth within a foot of the surface, no further irrigation will be necessary until the fruit is off.—Editors]

A red seal with a rosy red apple and the word "standard" on it will be placed on every box of apples meeting the requirements of the new standardization law after Aug. 7. These stamps will be sold to packers for a half cent each, and the money obtained will be used to enforce the provisions of the standardization act.

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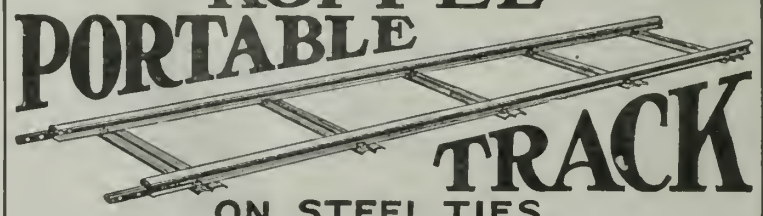
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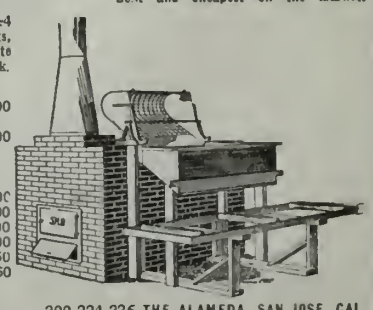
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8-lb. steel rails, 7 ets. per foot.	



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Growers Require Money on Delivery.

(Continued from page 73.)

price named by the Exchange. Even better arrangements have been made for 1915.

"In regard to loans on growing crops, we are operating without invested capital save that which is necessary for the operation of the business; consequently have not the funds available for future loans. Heretofore the Exchange has been able to arrange loans on growing crops direct from a State bank to the grower where the grower was unquestionably worthy and financially responsible for such loans. This loan was made on the basis of the grower's crop, but more largely on the basis of the grower's responsibility itself.

"However, the following plan is now in operation with most of the affiliated Associations of the Exchange with regard to growing crops. A number of our Associations have been able to make arrangements with their local banks whereby the bank loans the grower a sum of money with the understanding that the Exchange is to withhold this amount from the first proceeds of the sale, less selling and handling costs. A committee is appointed by the local association directors as a loan committee, who are residents of the district in which the Association is located, and who personally inspect the crops of the growers and make recommendations accordingly. In this manner the Exchange is no longer bothered with the question of future loans—this item being one of the missions of the local association. So far, with the exception of $33.42 which is still outstanding, every dollar that was loaned on future crops during the past five years has been promptly repaid.

Borrow Only for Advances.—"We believe that the Exchange today enjoys the best financial credit ever extended to a purely co-operative association, proving that as the growers evidence a real desire to cooperate along business lines they will have no trouble in financing their legitimate enterprises. We have proved to the bank time and time again that the California Almond Growers' Exchange is the safest account they have and they now realize this fact. The Exchange does not buy a single article for sale and hence there is no loss from speculation, and the money that is borrowed is used exclusively for advances to growers on crops when delivered.

"There are only two chances of loss to a bank through a loan of this kind. First: dishonest management, and second: market decline. A sufficient bond and careful attention on the part of Directors to details of business will obviate the first, and a reasonable margin of safety on the loans makes the latter element of loss practically impossible.

"It might be interesting to you to know that the Exchange in five years of operation, handling millions of dollars of business, has yet the first dollar to wipe off its books on account of bad sales.

"We do not have any stated amount or percentage to growers on delivery, as this depends upon the quantity of the crop to be marketed and percentage of it that is sold, and every other element entering into ordinary commercial intercourse. We aim to pay our growers as much as we safely can, anticipating a reasonable return of this money from sales. Ordinarily at least 50 per cent is paid on delivery. We treat every grower, large and small, alike in the matter of advances. No partiality is shown to any one or to any district.

"The reason for the satisfactory credit enjoyed by the Exchange is that the Exchange aims to borrow only such money that it can pay within a reasonable time, although we have at various times found it convenient to borrow on goods unsold not knowing when they would be sold, in which case the lender so understood, and the outcome has always been entirely satisfactory."

Big Credit to Perishable-Fruit Growers.—Concerning the ability of co-operative associations to borrow from banks for the marketing of even perishable fruit, G. H. Powell says of the California Fruit Growers' Exchange:

"It has no assets except a paid-in capital of $1,700, office fixtures, and supplies, although it handles $16,000,000 to $20,000,000 worth of fruit annually, or about 65 per cent of the citrus-fruit crop of California, and is able to secure the necessary credit, the bankers of California realizing that the co-operative movement is the foundation stone on which the $200,000,000 invested in the citrus industry rests. In other words, this is a rural credit system of the soundest type, the federated moral security of 7,000 growers and a history of careful management being its only collateral."

The California Fruit Exchange, the co-operative marketing organization for deciduous fruit growers shipping fresh fruit, finances itself and its individual growers from a reserve fund built up by setting aside 15 per cent of its net earnings annually for this purpose.

ASPHALTS DECAYED TREES.

[Written for Pacific Rural Press.]

In doctoring holes in orchard trees, many people use cement as a filler, but this appeared too heavy to suit H. R. Dakin of Alameda county, especially where injuries and rotting had occurred on outlying branches, or on stubs of limbs where grafts on one side only had grown, leaving a deadened section down the other side.

His Farm Adviser suggested the use of sawdust mixed with hot asphaltum. As much fine dry redwood sawdust as possible was mixed with hot asphaltum and packed into the holes after cleaning them out and disinfecting with thin creosote paint. It was pounded in with a hammer, and made "nearly as hard as cement and light as a feather."

It was necessary in some cases in the following summer when the hot weather had softened the mixture to pack it in tighter. It was expected that after one or two re-packings it would be so tight that no rain or fungus spores could get in, and shortly the tree would grow over it.

The advantages over cement are that in case the waving of the tree, the weight of nuts and fruit, or other causes should loosen the wood from the asphalt mixture, it could be pounded in to fit, while cement would be entirely rigid. Cement seems all right for trunks and even big limbs.

CHERRIES IN CARTONS.

[Written for Pacific Rural Press.]

Three stacks of cherries in boxes were standing side by side on the San Francisco market the other day. In one of them were small, black cherries loose. These were selling at 5 cents a pound. In another were Royal Anne cherries faced about 8 or 9 rows across the box. These were selling at $1.00 per box of 9 pounds net. Another was packed in 8 cartons per box of the same size as the faced box and these were selling at $1.30.

The cherries in the three stacks were scarcely of the same quality and the cheaper ones were the smallest, while those in the faced box were smaller and less uniformly colored than those in the cartons, yet the 30 cents extra obtained for the cherries in the cartons seemed pretty good pay for the cartons, the quality, and the little extra labor of packing, especially since there is considerable reduction in the amount of fruit packed in a box that way.

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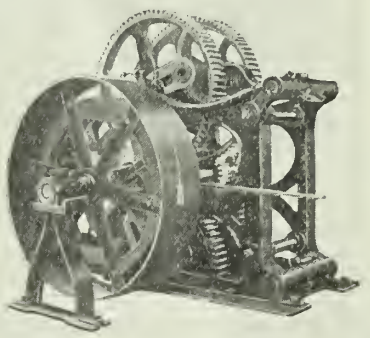
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WET-WEATHER ROOF REPAIRING.

[Written for Pacific Rural Press.]

If it costs $100 an acre to bring prune trees into bearing, or if the crop from mature trees would sell for $100 an acre, it takes almost as much work on that orchard whether it bears a good crop or whether it fails for lack of water.

There are many sections in the State where irrigation from streams is impracticable, but where the pump has proved its value in ordinary seasons and is indispensable in dry seasons. But a well and pump often cannot be installed after they are needed and before much damage is done to crops.

We visited a section last summer in which the fruit looked unutterably dry and discouraged. We visited the same section this summer and inquired if any more pumps had been installed and the reply was that this season and last one had brought so much rainfall that pumps did not seem very much needed so practically none had been installed during the past year. Remembering the large number of orchardists who had to abandon young orchards or who failed because their older orchards did not bear during the two dry years not so long past, we compared them in our mind with the Arkansan who did not repair his roof when it was raining because he was already wet.

CENTRIFUGAL ALWAYS PRIMED.

[Written for Pacific Rural Press.]

J. E. Kirker of Tulare county got doused last April because he had a better pump than he knew. He wanted to show a neighbor the new improvement by which his centrifugal pump continually remained primed.

The pump was installed about a year ago, but had not been used since last fall. Mr. Kirker took the neighbor down to the pump and took off the lid by which access is gained to a check valve located in the elbow just below the pump. This check valve lying horizontally on its leather circle on top of the suction pipe prevents the water running back into the well and keeps the pump full and ready to start operations.

After standing unused all winter, when Mr. Kirker took the lid off, the water squirted all over him and afforded ample demonstration that the valve was doing the work it was intended for.

The only way of starting many centrifugal pumps is to use a common little Douglas pump with which to pump it full of water. In some centrifugals, a valve is placed in the bottom of the suction pipe, but when gravel gets into the valve or when the leather wears out, the whole 30 feet of pipe must be pulled up in order to repair the trouble. In Mr. Kirker's pump the valve is most conveniently accessible.

UNIFORM IRRIGATION MEASUREMENT NEEDED.

To the Editor: The impression that practically all irrigation water is paid for by the inch seems to be quite general, and being erroneous the writer takes the liberty of stating the facts.

In Southern California the rule is to measure the water and charge by the inch, but even there the method of measuring and price are not uniform. Some charge a price per acre per year, allowing a given number of acres to the inch. Others charge by the hour, or by the day for a flow measured in inches. Some charge by the number of cubic feet of water delivered in a given time while still others charge by the gallon.

In Imperial Valley, the California Development Company charges by the acre-foot and delivers more than 5000 acre-feet a day.

In San Joaquin Valley, where more water is used for irrigation than all the rest of the State, the charge is made by the acre for all the water the irrigator wants, and he usually wants more than is good for his land.

In the foothills of the Sierras, where the irrigation is done from ditches, which formerly were mining ditches, the charge is generally by the inch for hourly or daily run.

Not only does the price per inch vary,—and the duration of run,—but the quantity representing the "inch" is different in different localities.

The Civil Code says an appropriator must specify in his notice of appropriation the quantity of water he claims "in inches measured under a four-inch pressure." So measured, an inch of water is 0.02 cubic feet per second, 1.2 cubic feet per minute, or 9 gallons a minute, re-

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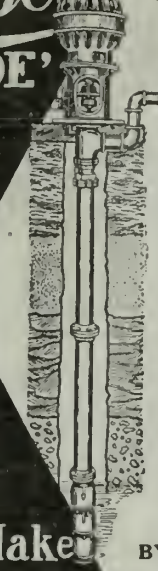
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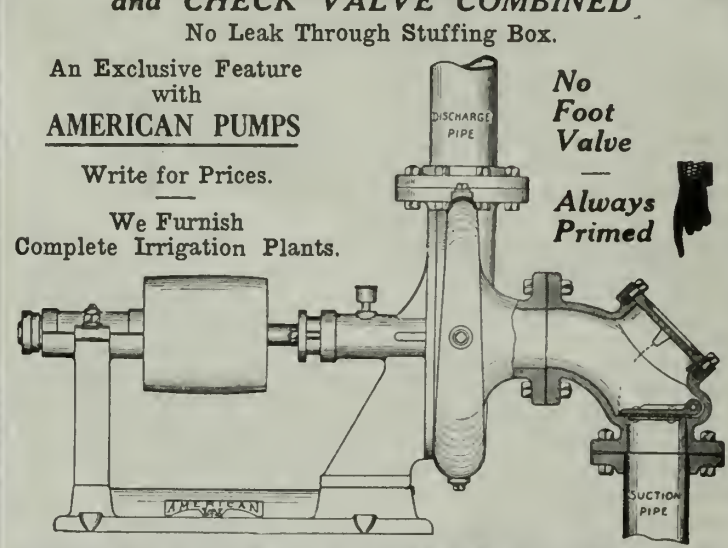
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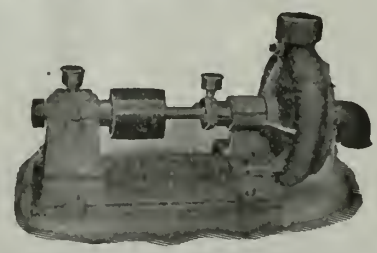
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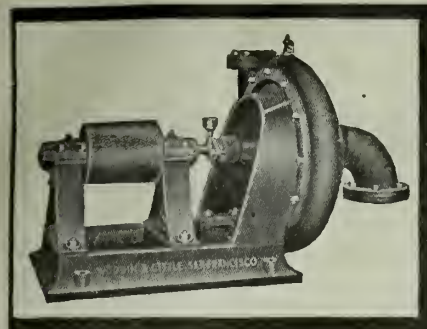
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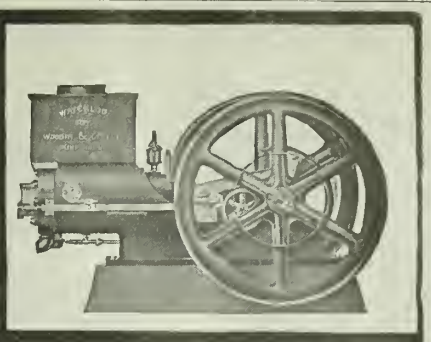
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quiring fifty inches to make one cubic foot a second.

A statute enacted in 1903 declares that "The standard miner's inch of water shall be equivalent to one and one-half cubic foot of water per minute, measured through any aperture or orifice."

1.50 cubic ft. per minute equals 0.025 cu. ft. per second, equals 1-40 cubic ft per second, equals 11.25 gallons a minute.

Section 23 of the Act creating the Water Commission (Statutes 1913, Chapter 586) recites that "for the purposes of this act forty miner's inches shall be equivalent to one cubic foot per second." This corresponds with the definition made by the Statute of 1903.

While the sale of water is by the inch in the south and in the hill region of the northern part of the State, by different standards, by far the greater amount of water used in irrigation is delivered without measurement.

P. M. Narbor, Asst. State Engineer.

MORE TRACTOR POINTERS.

[Written for Pacific Rural Press.]

Where a small gear wheel is used in a tractor to exert considerable driving force, there are fewer teeth in contact at any one time than where a larger gear or sprocket wheel is used. With the greater load per sprocket or cog, there is greater wear both on the sleeves and on the gear. The larger gear wheel wastes more of its power by applying it at a greater distance from the axle, but it may be that the power consumed is offset by the greater wear on the gears.

In this connection, it is interesting to note the remark of G. S. Wheeler of Stanislaus county when he says: "I would not advise the purchase of a poorly made machine as they will not stand up under all conditions. Better get a machine on which the repair bills will not eat up the profit." Any machine will need repairs more or less, so Mr. Wheeler advises buying a local make so that repairs will be available. Round wheel types have an advantage over the track types in repairs required, although a track-type man will say that you had better put $150 a year more into repairs than to lose urgently needed time on soft ground.

W. G. Wilde of Ventura county advises tractor operators that the slower the motor runs the better; do not overload the tractor. He says, "I use my tractor for plowing, harrowing, clod mashing, cycloning, chiseling, and all work on the ranch except planting, cultivating, and cutting. The greatest usefulness of the wheel type is on very heavy soil." Mr. Wheeler likes the type "that will make a turn in the least space."

BAMBOO POLES FOR ALMONDS.

[Written for Pacific Rural Press.]

Bamboo poles are used in harvesting almonds by P. D. Bane of Glenn county instead of the cured willows which many people in his section use. Bamboo does not splinter, nor does it hurt the trees.

He doesn't take two trees at a setting like Mr. Goodwin of Ripon does; because the varieties are set in alternate rows, and he picks each variety and hulls separately. This is because if all the varieties are mixed, he gets less for the whole crop. The almond jobbers want the varieties separate, though probably the consumers never know the difference.

From the field the almonds are taken to the huller and then the cleaned nuts are laid out in trays in a field to dry so that none partake of the sulphur fumes which are used in bleaching the shells. They are dried enough when they rattle and when the kernel will not bend without breaking. When the kernel is dried enough it will not get rancid from the sulphur.

Two objects are attained by sulphuring, which Mr. Bane does on his own place. No worms survive, and the shells are whitened as is much demanded by the trade.

The size of parcels post packages has been increased to a combined length and girth of 84 inches, which will permit the mailing of fruit and berry crates. A receipt system similar to the one in use by express companies has also been established.

The Williams Patent Portable Alfalfa Mill with Sack Packer



Can be driven with steam, oil, or electricity. Three sizes. One, two and three tons. Don't Haul Hay—HAUL THE MEAL.

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Capacity:

APRICOTS, 1 ton per hour.

PEACHES (freestone), 2 tons per hour.

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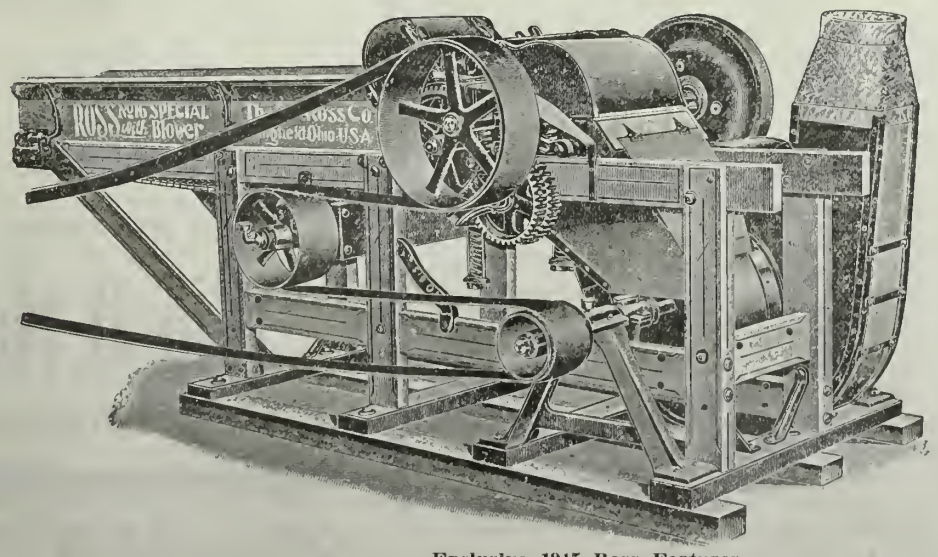
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General Agricultural Review.

CITRUS AND SEMI-TROPICAL.

A 60 per cent navel crop is now reported to be expected at Lindsay, as a result of about three days of heavy falling.

It is feared that Visalia will not be able to hold the Citrus Fair in December, as anticipated, as the new pavilion being erected for fair purposes may not be completed in time.

Los Angeles leads the other counties of the State in the production of lemons, with Ventura county second. San Bernardino county is first in orange production, and Los Angeles ranks second.

A packing plant for handling citrus products is shortly to be built in Lindsay by the Foothill Packing Company. It is to be modern in every respect, and will have a capacity capable of handling ten carloads per day.

Tulare county citrus growers recently met at Porterville and were addressed by Prof. W. M. Mertz of the Riverside Experiment Station on the subject of "Cover Crops in Relation to Orchard Management." A lecture on "Fumigation" was also delivered by Prof. de Ong of the Experiment Station.

A bulletin on how to distinguish date varieties has been published by C. S. Mason of the U. S. Dept. Agr., concerning which Paul Popenoe mentions the following pointers: Measurements of different parts of the leaf furnish a guide for identifying several varieties even when they are not in fruit. They seem also to indicate what kind of fruit a palm will bear before it has come into bearing. By using pollen from a male palm, whose measurements are nearly as possible the same as those of the female palm, the seedlings seem likely to come nearer true than if the pollen were taken at random.

GRAPES AND SMALL FRUIT.

It is reported that California seeded raisins are now being shipped to Europe for the first time.

Three thousand five hundred tons of raisins are being stemmed by the California Associated Raisin Company at their Reedley plant.

It is reported that the largest winery in Central California has annulled all wine grape contracts, freeing 40,000 tons of grapes.

The Farmers of the Lockeford center of the San Joaquin County Farm Bureau recently listened to a lecture by Farm Adviser Lyons on grape diseases, their prevention, and cure.

It is expected by packers that the first run of Thompson seedless grapes will commence between July 25 and 28, a very small quantity being expected to be shipped as green fruit, as good prices are anticipated for raisins.

The product of Malagas from the 100-acre vineyard of the Great Western Vineyard Company will be packed this year instead of being made into wine, as previously. The company plans also to dry a large quantity of the Thompson seedless grapes, which have been in the past used for blending.

The California Associated Raisin Company has decided to branch out in the dried fruit business, in order to further the sale of raisins; as it is stated that in many cases jobbers do not care to purchase an entire car of raisins, but would be willing to take a half a car and the other half in dried fruits.

Wylie M. Giffen, president of the California Associated Raisin Company, returned from the East recently where he had been to look over the market situation and to get the representatives of the company in line for a big selling campaign this fall. While it is too early to estimate the grape crop, Mr. Giffen believes that, given the usual growing and harvesting conditions, California will produce a large crop of raisins this fall—possibly going as high as 105,000 tons, as against 95,000 tons last year. He thinks that the hold-over crop, amounting at this time to 25,000 tons, will be all sold by the time the new crop is ready to market, and, therefore, believes that the 1915 crop will command fair prices and ready sales. The big advertising campaign conducted by the Associated the past season, he says, was successful. If all of the raisins produced in the State were given the Associated to market, the work of the big co-operative company would be simplified, and all the growers would receive better returns.

OLIVES AND NUTS.

Butte county leads the State in the production of commercial olives and almonds. Contra Costa county takes second place in almonds, and Riverside and Tehama counties rank second in the percentage of olives grown.

A report from Spain to the California Almond Growers' Exchange states: "Jordans.—These started very well after fall of the blossoms, but adverse weather conditions have somewhat curtailed the yield. As there was abundant rain during the spring, it is hoped as a set-off to this curtailment that there will be a larger proportion of large-sized nuts than usual."

It is anticipated that the shipments of almonds from Oakdale this season will break all records. The local branch of the California Almond Growers' Exchange is reported to be flourishing, 23 new members recently being added at the annual meeting. The following officers were elected: C. C. Turner, president; and A. E. Schadlich, secretary and representative to the State exchange.

DECIDUOUS FRUITS.

Tomato canning at the Manteca Cannery will commence on August 15.

The new model cannery to be operated at Kingsburg by co-operative interests will open on July 20.

A new fruit, resembling both the apricot and the green gage plum, has been originated by J. W. Robinson of the Sebastopol Cash Nursery. He will call it the "Royal."

The Porterville plant of the Tulare County Growers' Association expects to have its entire stock of hold-over peaches sold before the canning of the new crop commences on July 26.

A report is given out that the Hanford branch of the California Fruit

ALL DELIVERY CONTINGENT UPON STRIKES, FIRE, FLOODS AND CONDITIONS THAT ARE

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PETALUMA CAL 4-5-15 191

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Gentlemen:- "Attention Mr. Gregory"

Your last shipment of Test Special belting came duly to hand. Please accept our thanks for promptness in filling this order.

We are now using this brand of belting on a good part of our plant and have found it so satisfactory that we are replacing all worn out belts with "Test Special." We have placed this belt on high speed machines and in places where severe strains and overloads are carried and our experience is that it carries the loads and lasts longer than the best grades of leather or Balata belting.

We find that it is not affected by heat or moisture, will not tear out at the lacing and will last twice as long on a run that wears out the best grade of leather belt. We do not hesitate to recommend "Test Special" belting for use for any purpose for which a belt is used.

Very truly yours,
Petaluma Box Co.
per V. L. Frasier

F:LL

We shall be glad to help you solve your transmission belt problems. Just write to us.

New York Belting and Packing Co.
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Fumigating Tents

Accurately Marked under Woglum System—Carefully Made—Best Materials

ANY SIZE

Irrigating Hose

1⅜ Inches
2½ Inches
4 Inches
6 Inches
9 Inches
13 Inches

Special or Regular
Canvas
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WHOLESALE GROWERS OF
True to Name Nursery Stock
Main Office: 2523 TULARE STREET, FRESNO, CALIF.

Canners' Association will not run this year for peach canning, but that fruit already purchased under contract will be sent north for canning.

A co-operative association for the canning and marketing of Tulare county fruit is rumored.

The American Pomological Society will meet in Berkeley on Sept. 1, 2, and 3 instead of on Aug. 23 to 25, as first announced.

An association for the purpose of constructing a co-operative cannery is under discussion by the fruit growers of Sutter county, as a result of the attitude of the canneries this year in refusing to buy peaches.

That the California Associated Raisin Company now controls the world-wide market, as a result of the European war, is the statement made by Jas. Madison, vice-president. The only other raisins available for human consumption are the Zante currants of Greece.

The plant of the California Fruit Canners' Association at Marysville will not run this season, depriving more than 500 people of work, according to an announcement made by the manager. It is also rumored that the company's cannery will not open at Yuba City either, on account of the condition of the fruit market this season.

On July 19 an examination was held at Fresno to select inspectors to enforce the new fruit standardization law which goes into effect next month. The examination was conducted by the State Horticultural Commissioner, Fred P. Roullard, County Horticultural Commissioner, and a representative of the growers.

GRAIN AND FIELD CROPS.

It is said that the Nevada wheat crop is larger this year than it has been for the past ten.

Atwater shipped the first sweet potatoes this season to San Francisco on July 12.

The San Joaquin Valley Sugar Company at Visalia shipped the first carload of 1915 sugar on July 10.

The first watermelons from Fresno county are now to be found on the markets in the various parts of the State.

Hay to the amount of 4200 tons arrived in San Francisco during the week ending July 17, which is an increase of over 1000 tons from last week's arrivals, the main part being old crop hay.

The Gridley Rice Milling Company has sacked and milled between fifty and sixty thousand sacks of rice during its run of six months, and it is expected that about 10,000 more will be received within two weeks' time. Porto Rico has been the destination of most of the finished product.

The Southern Pacific Company has submitted the following change in freight rates to the Interstate Commerce Commission for approval. Forty cents per 100 pounds on wheat, oats, and rice in sacks shipped in carload lots of 80,000 pounds; and fifty cents per 100 pounds for alfalfa meal in sacks shipped in carloads of 60,000 pounds from California points to the East.

MISCELLANEOUS.

The Merced district fair will be held September 23, 24, and 25.

The University of California will open its 53rd regular session on August 17.

A dry farming station is to be established by the University of California at Coalinga.

August 14 will be San Joaquin Valley Day at the Exposition instead of July 31, as first announced.

Practically all of the fruit raised in California is produced in sixteen of its counties, Santa Clara ranking first.

Farm life improvement will be the feature of the 20th annual meeting of the American Association of Farmers' Institute Workers to be held Aug. 12 to 14 in Agricultural Hall at Berkeley.

A conference on fruit pests and weed pests found in the rice fields was recently held in Marysville by members of the State Commission of Horticulture and County Horticultural Commissioner Harney of Yuba.

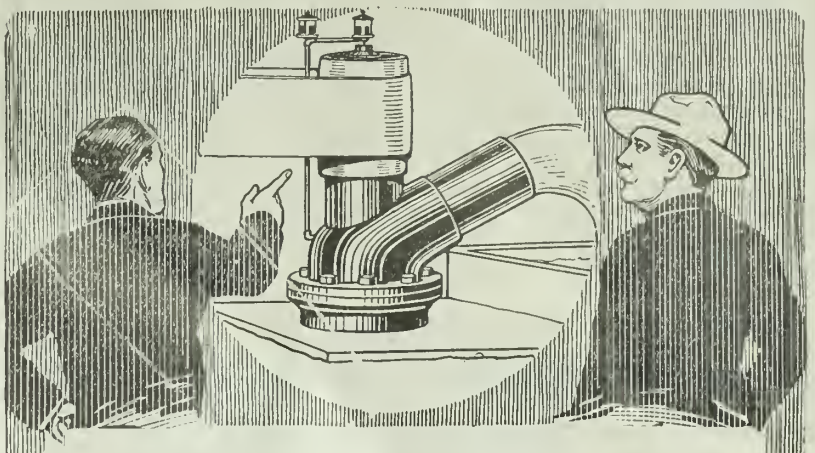
A co-operative marketing agency of market gardeners and small fruit producers, in order to secure a regular market for the produce of residents of the suburban districts, is under consideration for Porterville, a meeting of the growers having been called for that purpose.

An interesting summer school session was held in Puyallup, Wash. from July 12 to 17. It was known as the Superintendents' Week of the Puyallup Summer Session, at which were given instructions on the many new subjects recently added to the educational system, and on which few school superintendents received training in their own school days.

In recognition of the exceptional value of the Oakland Produce Market to the growers along the Oakland, Antioch & Eastern Railway electric line, a fast express freight train to be called the "Produce Cannonball" will be run every week day commencing Monday, July 19, leaving Sacramento 6 p. m. and arriving in Oakland at midnight so that the commission houses of Oakland can have the produce at their stores in time for the early market.

San Joaquin county has just put out a bulletin describing its farm products, livestock, and poultry industries, showing in a very detailed way how they are grown, their disadvantages, advantages, yield, cost of production, and markets. The authorities on each statement regarding each product are cited, and practically the whole bulletin is devoted to agricultural information, including how to grow the livestock and various crops. Contrary to the usual county bulletins, only a few pages are devoted to descriptions of the towns and to the manufacturing industries.

Before leaving home, the prospective student of the University Farm Short Course will know that on the afternoon of Nov. 2 he can practice under the direction of Prof. G. H. True the judging of dairy bulls; that on the afternoon of Oct. 21, Dr. F. M. Hayes will show him how to vaccinate hogs to prevent hog cholera; that on the afternoon of Oct. 18, Prof. A. V. Stubenrauch will discuss how neighbors may co-operate for fruit marketing; and that on the morning of Oct. 14, Prof. R. L. Adams will tell how to economize and eliminate waste on a poultry farm. There are to be courses in general agriculture, dairy manufactures, poultry husbandry, and in horticulture, including deciduous fruits, citrus and semi-tropical fruits, viticulture, and olives. The full 779 acres of the University Farm will be the classroom for these visiting farmers and their wives.



Note the absence of intricate and exposed mechanism. So extremely simple—so compact—nothing to get out of order. This nicety of construction is found only in the Layne & Bowler Pump. Write at once for Booklet No. 25. Exhibit at San Francisco Exposition.

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Grain Bags,
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GREENBANK CAUSTIC SODA AND POTASH.
T. W. Jackson & Co.
42 Market St., S. F.

AT THE rate European horse buyers are making purchases in California at the present time, we may expect a horse shortage for many years to come. If the war lasts another year, the condition may become acute, as our small farmers, who are ever on the increase, must have horse-flesh in ever-increasing numbers. The purebred prospects become more flattering every day to the breeder who will devote time and attention in breeding real quality into his stock. Much of the advantage Europe has had in her centuries of horse breeding endeavor have been overcome with one stroke; and the California farmer with his feed and natural climatic advantages has never been in a better position to place California on the map as a stud farm center, or to enter horse breeding on equal terms with breeders in all parts of the world.

Getting Money and Pleasure From Dairy.

Cow-Testing Records Show Cows' Pr oduction; Comparative Value of New Bulls, Rations, and Milking Machines; Monthly Prices of Fat; and Keep the Boys Interested.

[Written for Pacific Rural Press.]

Anyone who has the least doubt about the benefits to be derived from regularity in the testing and weighing of a dairy cow's milk should visit John Trigg of Humboldt county.

Six years ago Mr. Trigg joined the Ferndale Cow Testing Association to weed out his boarders. He has kept up his membership to check up each new practice as well as to know which are the best cows in his herd, for it is from the best ones that he must look for still further improvement in breeding.

If he tries out a new bull, he knows absolutely whether he is breeding correctly. If he tries a new ration, he knows whether it is better or worse than the previous one in dollars and cents. When he purchased four milking machines over a year ago, he used his association records to determine whether there was a falling off in milk or not, and when he commences to feed the silage from his new stave silo this year he will know whether it is beneficial from a feeding standpoint. By referring to his records, he knows what price has been paid for butterfat each month in the year, the average butterfat test of his herd, the exact amount of milk produced by each cow and by the herd, the total income per cow per day, month, or year. In fact, Mr. Trigg can refer to his cow testing records and give you an itemized account as complete as you would find in the most progressive business enterprise in the country.

All of this has meant greater financial returns. It has meant the establishing of a 350-pounds-of-fat standard in matured cows, which is rigidly adhered to. It has meant the interesting of his sons, two of which are now taking agricultural college dairy husbandry courses. As an example of their initiative and judgment, a Jersey bull calf was purchased this year to be later used as herd sire, solely upon the judgment of one of the sons. The silo built this spring was due largely to the advice secured by the sons, and so it goes. Each member of the family is interested in the dairy because there is always a game on at home. That game is played with cows, the picking of the winner each month or year being good fun. The winner is naturally the heaviest producer. There is a vague something which you can feel, but cannot explain, that makes you sure of a better and more interesting life on such a farm. You have a feeling that boys raised in this manner are not the ones who will be attracted by the city life, but will go ahead on the old farm and make it an even more prosperous establishment than father has.

To illustrate, one little Jersey in the herd is called Tootsie, and she is known by each member of the family quite intimately; not alone because she likes appreciation, but because she pays at the milk pail. That is the final measurement of every cow on this ranch.

As the following records show, Tootsie returned her owners an average of $138.80 per annum for the last three years since freshening, and is still only five years old. Each set of figures represents one full year's testing and will give the most skeptical some idea of what consistent testing is worth.

Cow-Testing Records.

Age—2 years. Name—Tootsie. Date of Calving Feb. 13, 1913.

Test Made	Pounds milk	Test	Butter fat	Price	Receipts for fat
March	29	933	3.6	33.58	$ .35	$ 11.76
April	30	918	4.6	42.22	.31	13.08
May	29	930	4.6	42.78	.29½	12.62
June	28	897	4.5	40.36	.31½	12.72
July	30	790	4.6	36.34	.32¼	11.88
August	29	620	4.6	28.52	.36¾	10.47
Sept.	30	603	5.0	30.15	.37¼	11.20
Oct.	29	489	5.2	25.42	.38¾	9.83
Nov.	30	420	5.2	21.84	.38¾	8.44
Dec.	31	322	5.0	16.10	.36¼	5.83
Jan.		Dry				
Feb.	29	897	3.2	28.70	.40	11.48
Total		7899	4.42	346.1		$119.31
Receipts for skim milk						$ 7.81
Total receipts						$127.12

Age—3 years. Date of Calving Feb. 13, 1913.

Test Made	Pounds milk	Test	Butter fat	Price	Receipts for fat
Mar.	31	1112	4.2	46.70	$ .39½	$ 18.21
Apr.	30	1149	4.3	49.40	.39½	17.29
May	31	1147	3.8	43.58	.31½	13.73
June	30	972	4.6	44.71	.32	14.31
July	31	883	4.6	40.61	.34½	14.01
Aug.	31	713	5.1	36.36	.37½	13.63
Sept.	30	471	4.7	22.13	.40	8.85
Oct.	31	455	5.5	25.02	.37¼	9.32
Nov.	30	330	5.6	18.48	.37¾	6.90
Dec.		Dry				
Jan.		Dry				
Feb.	28	1003	3.6	36.10	.39	14.08
Total		8233	4.4	363.9	$ .39	$130.41
Receipts for skim milk						$ 8.23
Total receipts						138.64

Age—4 years. Date of Calving Feb. 22, 1914.

Test Made	Pounds milk	Test	Butter fat	Price	Receipts for fat
Feb.	22	210	2.8	5.88		
Feb.	25	90	2.8	2.52	$ .29	$ 2.43
Mar.	19	1354	4.1	55.51	.25½	14.15
April	16	1425	4.1	58.42	.26½	15.47
May	16	1184	4.2	49.72	.27	13.41
June	17	1110	4.7	52.17	.28	14.61
July	17	1010	4.2	42.41	.28½	12.08
Aug.	17	833	4.6	38.31	.32¾	12.54
Sept.	17	774	5	38.70	.34½	13.35
Oct.	17	669	5.1	34.11	.35	11.93
Nov.	17	585	5.2	30.42	.36½	11.09
*Dec.	17	291	4.8	13.96	.33	4.62
Jan.	18	964	4.7	45.30	.32	14.49
Total		10499	4.4	467.44		$140.17
Receipts for skim milk						$ 10.49
Total receipts						$150.66

*Aborted Dec. 26 and dry.

Tootsie's record is better than some of her stable mates, but the average return per cow last year was $114. Six heifers in the herd, which freshened last year, averaged over 250 pounds of fat with their first calves. Some day Mr. Trigg believes that he will have more Tootsies in his herd and that their annual production will be higher than at present. All but five of the cows in the herd are grade Jerseys, the others being registered. Some day the percentage of registered cows will be turned about.

In face of this evidence, we did not dare to ask the question we meant to: "Does testing pay?" Would you?

RIVERSIDE COW TESTING.

Many sections of Southern California which have not heretofore been considered dairy districts are developing along this line rapidly.

An example of the growth in Riverside county which has formerly been considered a fruit county pure and simple is shown by the organization of a cow testing association there 8 months ago.

We are informed by Mrs. E. Marion Bird of Riverside, who is Secretary of the Association, that there are 650 cows now being tested, belonging to 23 different dairymen. The charge per cow in this Association is $1.50 per year payable 6 months in advance.

The tester works on the guarantee of $75 per month for 900 cows or under and is to receive 8⅓ cents per cow per month for all over 900. This mode of payment encourages the tester to secure all new members possible, and it is through him and the work of members that the new members are secured.

Some difficulty has been found in holding the membership up to the required number.

Like dairymen in most other parts of the State at this time, testing is regarded more as a luxury than as a means of securing production at less expense, and for that reason the present low price of butter fat has tended to lower membership.

Practically all of those dairymen who are testing are using registered sires and approximately 20 per cent of the cows in the county are being tested by the association.

As has been the case with fruit growing in the southern part of the State, dairymen are showing a disposition to include progressive methods in their dairy work, as is shown by the large amount of purebred stock which has recently been sold there and the organization of this and two other cow testing associations in recent months. With Imperial county as their leader, we may expect great development along dairying lines in that part of the State in the future.

Wool growers in northern Sonoma county and southern Mendocino county report the best price in wool received in many years, long wool bringing 27½ cents and short wool, 25 cents.

Stockmen!

Do your Cattle, Hogs, Sheep, Horses respond satisfactorily to the feed you furnish them? That is, does your expenditure for feed bring satisfactory returns in the shape of milk, cream, butter fat, pork, mutton and horse power? Is your investment in feed profitable? Does it pay?

Productive Feeding of Farm Animals

By F. W. WOLL, Ph. D.

will, as its title indicates, tell you all about feeds and feeding. It gives tables and charts showing the exact food value of any feed or forage produced in California; with scientifically exact tables of what proportion of a certain feed each animal needs to produce the best results.

By all means, get a copy of this valuable work.

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525 MARKET STREET,
San Francisco, California.

For Sale

800 Unrecorded Pure-Bred

Shropshire Ewes

in lots to suit.

These sheep are large and in fine condition. Can be seen near Firebaugh. Price on application.

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Merchants Exchange Bldg.'
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HORSE OWNERS! USE GOMBAULT'S



CAUSTIC BALSAM.

A safe, speedy and positive cure. The safest, Best BLISTER ever used. Removes all bunches from Horses. Impossible to produce scar or blemish. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.

Bargains, First-Class Show Bulls

We are offering for sale purebred registered HOLSTEIN FREISIAN BULLS. Serviceable age. Bred to the lines of Pontiac, Korndyke, De Kol, Hengerveld, Inka and Spofford blood, the highest record strains. Dams—nigh record foundation cows, ranging up to 38 lbs. in 7 days. For further particulars and prices write or call

PANAMA PACIFIC DAIRY
Laura J. Frakes, Sec'y. Sutter Creek, Cal.

DEWEY, STRONG & CO.
SCIENTIFIC PRESS PATENTS PATENT AGENCY
911 Crocker Bldg., S. F.
Circular containing 100 mechanical movements mailed free.

When Not to Vaccinate Hogs.

Simultaneous Method Dangerous Except in Skilled Hands; and Should Not Be Applied in Districts Not Yet Infected. Serum Alone for Pigs Under 50 Pounds.

When pigs get off feed or show any signs of sickness, the probability of cholera should be considered; as nine out of ten sick hogs have that disease, and recent investigations show that a heavy loss is annually experienced in California by farmers mistaking the disease for so-called cases of swine plague, infectious pneumonia, contagious sore eyes, staggers, and oftentimes paralysis.

Such is the contention set forth in a circular recently issued by the University of California, which while not pretending to furnish sufficient information to qualify the average hog owner to use either serum or virus, points out many timely warnings in an attempt to overcome the heavy financial loss occurring annually in this State from cholera.

Vaccination Not Always Practicable.—The circular advises all hog raisers to vaccinate their swine against hog cholera as soon as the danger of exposure is established, but owing to the expense of vaccination and the danger from carelessness in the use of virus, they recommend the immunization of hogs only in infected districts except in cases where purebred stock is to be shipped for exhibition or breeding purposes.

Two Methods.—There are two methods of immunizing hogs against cholera. In one, the serum alone is used, producing an immunity lasting thirty to ninety days; in the other, a small amount of virus (virulent hog-cholera-producing blood) is injected simultaneously with the serum, but at a different point in the body of the animal. The latter is known as the simultaneous method and will produce lasting immunity, except in suckling pigs and small shoats, in which case the immunity may disappear as they mature. Some serum manufacturers and others in their efforts to sell serum have advised all hog owners to immunize, stating that hog cholera is so prevalent that no farmer can afford to run the risk of keeping a susceptible herd. Under California conditions, general vaccination at present would be desirable only in infected districts, while in other localities it would be a needless expense. Use of the simultaneous method in non-infected districts by men poorly trained for the purpose may spread hog cholera, although we have seen no evidence that it has ever done so; while the use of serum alone would be a waste of money, because the immunity from this method is so short.

Method to Use.—In infected herds, this station usually advises the simultaneous method on all healthy hogs, except sows heavy with pig or with litters less than six weeks old. Such sows and their litters may receive serum alone, but should be re-immunized with serum and virus six to ten weeks after farrowing. Temperatures should always be taken before vaccination and the animals which have over 104 degrees F. should be considered already infected and given serum alone, using a 50 per cent increased dosage.

Pigs from immune sows are slightly resistant, but should be closely watched; and if any show signs of cholera they should be given the serum alone. This will usually carry them well past the weaning time, when they can be given the simultaneous treatment. If the herd seems to be extraordinarily susceptible to cholera, however, it will be necessary to give the serum alone more than once in order to carry them several weeks past weaning. Pigs given the simultaneous treatment soon after weaning time sometimes lose this protection within a few months. To acquire a long-time immunity, pigs should weigh at least 50 or 60 pounds at the time of receiving the simultaneous treatment. At this weight the immunity usually lasts the ordinary lifetime of the hog. Certain swine raisers in this State, whose herds are constantly exposed to infection and who have developed a thoroughly immunized lot of brood sows are able to permanently immunize the pigs at six weeks of age by injecting a slightly increased dose of virus (2 c. c.) and a small dose of serum (15 c. c.).

Warning Visitors.—All hogs giving visible symptoms should be killed or placed in isolation pens without vaccination. It is a waste of money to treat visibly sick hogs. Notices should be posted, warning visitors to keep out, and the premises should be considered infected for at least 30 days after the disease has disappeared. Linen posters printed as follows can be obtained free by writing to the Veterinary Division, University of California, Berkeley, California:

> WARNING
> The hogs on these premises have been vaccinated with
> VIRUS AND SERUM
> No visitors allowed in these pens and fields.

> NOTICE
> The hogs on these premises are free from cholera.
> Owners of infected herds are
> WARNED TO KEEP AWAY
> No visitors allowed in hog pens or fields without permission. Trespassers will be prosecuted to the full extent of the law.
> (Signed).....

In exposed herds where no sickness is present, the use of the simultaneous method is advised. The vaccination of sows heavy with pig and those having litters less than six weeks old should be postponed, and such animals isolated in pens protected from the possibility of infection.

The immunity of small pigs frequently disappears in four to six months; therefore it is advisable when no sickness is threatened to postpone the vaccination of pigs until they weigh at least 50 pounds. The sows on which such pigs are suckling should not be given virus with serum until the pigs are treated. When it is deemed necessary, serum alone may be used on sows and their pigs, but after an interval of several weeks they should be re-immunized by the simultaneous method.

The use of the so-called double method, consisting of serum alone, followed in ten to fourteen days with serum and virus has not proved satisfactory under California conditions. Unless an interval of at least three weeks is allowed to elapse between injections, immunity appears to be much shorter than that conferred by the simultaneous injection.

Four million pounds is the estimate of the wool clip in the vicinity of Roswell, New Mexico. This is 1,000,000 pounds more than the average.

GRANDSONS OF TILLY ALCARTRA

At Prices within Reach of Every Breeder and Dairyman.



A Grandson of Tilly Alcartra

We have several splendid grandsons of this now famous cow which we can deliver to you at prices which will suit the pocketbooks of every dairyman wishing to improve the quality of his herd, whether it be a grade or pure-bred herd. These bulls are sired by our herd bull, Prince Alcartra Korndyke and out of A. R. O. cows, and the only living grandsons of a cow having a record of over 30,000 pounds of milk in a year. Such an opportunity for increasing production has never been offered **DAIRYMEN AND BREEDERS** in California, price and quality considered. Buy one of these bulls and solve your low production problem. Write

J. S. Gibson Co., Box 97 Williams, Cal.

"THE NAME GIBSON INSURES QUALITY."

Hillcrest Stock Farm

THORNTON S. GLIDE, Prop., Davis, Cal.

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Short Horn Cattle

Shropshire and Merino Sheep

ATTENTION, SHEEPMEN.

My pure-bred, range-raised yearling Shropshire and Merino rams are now out of the mountains and ready for inspection at my place.

Shropshires sired by rams imported by me from England in 1911.

San Ramon Shropshires



OUR FLOCK HEADERS ARE:
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Cavendish 272
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OUR 1914 WINNINGS:
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PUREBRED REGISTERED RAMS AND EWES
INDIVIDUALS OR CARLOAD LOTS.

BISHOP BROS., Agents. SAN RAMON
Frank Rutherford, Supt. Contra Costa Co.,
Fed Ballard, Shepherd. California.

When Grain is High **Feed DIGESTER TANKAGE**

Whether intended for show or market, the hog attains perfect condition and more quickly and economically if his ration includes some **DIGESTER TANKAGE.** The growing pig needs **DIGESTER TANKAGE** as a bone and muscle builder. Write for free pamphlet on hog-feeding.

WESTERN MEAT COMPANY,

Animal Food Dept., 704 Townsend St., San Francisco, Cal.

Short Horn Bulls

7 Choice Registered Tuberculin-tested Short Horn Bulls, aged 14 to 20 months. If interested, write or call immediately.

H. L. MURPHY, PERKINS, CALIF.

Ask Your Dealer For

El Dorado Cocoanut Oil Cake

for Milk Cows and Chickens and Young Pigs and Hogs. Cheapest food in the market today. If your dealer doesn't cary it, address

EL DORADO OIL WORKS,

149 California Street, San Francisco.

With the Live Stock Men.

DAIRYING.

A carload of hogs was recently shipped to Los Angeles by the F. D. Campbell Company of Tulare.

Ten Holstein cows were recently sold by H. B. Goecken of Livermore to the Philpot dairy of Pleasanton.

S. P. Kelly, of the Clover View Farm, Ferndale, will make a showing of his Jersey cattle at the Panama-Pacific Exposition.

The total number of Guernsey cows now being tested in the United States is 1189. Two hundred and forty three Guernsey breeders in the United States have cows on Advanced Registry test.

The Visalia Co-operative Creamery paid dairymen $27,778 for the 240,000 pounds of cream delivered during June. Of this, 79,000 pounds found a ready sale through the company's Los Angeles house.

The Yolo-Sacramento Cow Testing Association reports that of the 950 cows tested during June, 27 produced more than 45 pounds of butterfat. On account of feed conditions, this showing is not as good as that of the past few months.

An organization was recently formed in southern California, known as the California Milk Producers' Association. An active campaign for membership is being conducted, the association having 185 members at the present time.

For the delivery of 130,821 pounds of butterfat during June to the Danish Creamery Association of Fresno, dairymen received $38,617. This shows a decided increase over the same month of 1914, when only 124,067 pounds of butterfat were handled.

A party of eastern dairymen and milk dealers were guests recently of the Humboldt Chamber of Commerce on a trip of inspection through that county for the purpose of studying the methods employed in the dairies, creameries, and milk condensing plants.

The second annual consignment sale of Holstein cattle will be held at Hanford on October 14. It is said that more than one hundred head have been promised, and the sale will be better and bigger than the one held last year. A sale of purebred hogs on the following day is being discussed.

A total of $54,300 for butterfat delivered during June was paid to Tulare dairymen by the Dairymen's Co-operative Creamery and the Good Luck Creamery of that place. On account of failure to collect for its product sold in Los Angeles, the Tulare Co-operative Creamery has postponed payments until July 25.

Dairies in the vicinity of Stockton will shortly be visited by the City Food Inspector and the State Veterinarian for the purpose of examining the cattle for tuberculosis, in order to give the dairymen a chance to rid their herds of infected cattle before the law, compelling them to kill them, takes effect on Oct. 1.

The world's record for butter has again been broken by a Holstein cow. Finderne Pride Johanna Rue No. 121083 H F H B, in a 365-day test under the supervision of the New Jersey Agricultural College produced 28,403.7 lbs. milk, containing 1176.47 lbs. butter fat. She was bred by Bernhard Meyer of Finderne, N. J. and is owned by the Somerset Holstein Breeders' Company of Somerville, N. J.

Malcolm H. Gardner, Supt. Advanced Registry Office, Holstein-Friesian Association, advises us that the cow Lucille Jolie Pontiac 144478, owned by Peter Small, Chesterland, Ohio, has broken the record for fat production in the senior four-year class, by producing in seven consecutive days 19.148 lbs. fat from 463.1 lbs. milk.

The Pacific Coast Jersey Cattle Club will suspend operations on August 1, no applications for registry or transfer being accepted after that date. Arrangements have been made with the University of California to have the records placed on file for any needed reference at the University Farm, Division of Animal Industry, Davis, Cal. Lack of interest in the affairs of the Club has been given as the cause of its dissolution.

Since the heavy importations of butter to Australia started this spring, it has been apparent that some butter and cheese inspector should certify and correct the grade and quality of all butter and cheese being shipped. Most foreign countries have import laws which demand that all dairy products be properly graded and inspected by government and State officials from where they are shipped; and as California has not previously had such an inspector, Secretary Andreason of the State Dairy Bureau last week appointed T. J. Harris official scorer for the Wholesale Producers' Exchange at San Francisco. Mr. Harris will inspect all butter shipped to foreign countries and certify as to the grade of each shipment. The cost of this inspection will be borne by the consignor and will be paid to the State Treasurer, from whom Mr. Harris will receive his pay. This step is one in the right direction and should be a considerable aid to butter shippers in the future.

CATTLE AND SHEEP.

There were 80,000,000 sheep in Argentine at the end of 1914.

Shipments of wool have com-

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

DAIRY CATTLE.

AUCTION—AUCTION—200 HOLSTEIN GUERNSEY COWS—Heifers and Calves, one Registered Holstein Bull 40 Big Brood Sows, 125 Hogs and Pigs, 12 head of young Mares and Horses; one team of Young Mules, One Berkshire and one Jersey Duroc, registered Boars. One Electric Dynamo, one Ice Plant, one Jensen Ripener One Cream Separator, one 250 Ton Silo. One Corn Cultivator, 2 Mowers, 2 Hay Rakes, one Hay Stacking Outfit, 90-tooth Harrow, Shovel Plow, one Disc Harrow, one German Drill, one Beet Seeder, one Smooth Roller, one Corrugated Roller, one Iron Age Cultivator 2 Gang Plows, 2 Walking Plows, one Five-Foot Fresno one Hay Rack, one Hog Rack, one Grain Bed, one Scale Stretches and Chains, one Hog-Scalding Trough, one 12 Bottle Milk Tester, one Little Giant Screw Plate, Milk Cans and Buckets, one Blacksmith Outfit, one Farm Wagon, one Spring Wagon, one Dairy Wagon, 2 Buggies, one Alfalfa Renewer, 3 Iron Cots, one Desk Household Utensils and Chairs; also many small tools and odds and ends. The above are to be sold on Saturday, July 31st, at the Woodland Farm Dairy, Woodland, Cal., to the Highest Bidder for Cash. Sale starts at 11:00 a. m. Plenty to eat and drink. W. H Hord, Auctioneer.

FOR SALE—One pure-bred Guernsey Bull. He is of the Langwater breed and has a butter fat record of 850 pounds a year in his breeding. Five years old this fall. Dr. D. J. Turner, Gridley, Cal.

FOR SALE—3 A. R. O. registered Holstein cows, one fresh, two heavy Springers and yearling registered heifer. Price, $1100. One complete cheese outfit. Manning & Smith, Kerman, Cal.

FIVE REGISTERED HOLSTEIN cows and four heifers priced for quick sale. K. W. Abbott, Milpitas, Cal.

REC. HOLSTEINS—We offer choice grandsons of King Segis, also grandsons of the world's record cow, Creamelle Vale; blood that increases the value of your herd. Write or call and see our herd. F. H. Stenzel, San Lorenzo, Cal.

REGISTERED HOLSTEINS—Young bulls sired by King of Riverside and Lakeside Model Prince from A. R. O. fame. J. H. Harlan Co., Woodland.

FOR SALE—About 60 head of fine dairy heifers from 6 months to 2½ years old. Grade Jersey and Holstein. J. S. Smith, 226 Alameda Ave., San Jose, Cal.

HOLSTEIN BULLS—Pure-bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. R. Agee, Napa, Cal.

FOR SALE—60 Jersey heifers, $30 each. 55 Jersey cows and 4-unit Sharples milker and separator, $5000. Terms. C. B. Crawford, Buttonwillow, Cal.

FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

FOR SALE—Thirty head of A No. 1 Dairy Cows. Price, $80 per head. Address or phone J. E. Cain, Jr., P. O. Box 42, Arbuckle, Cal.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

AYRSHIRES—For sale, fine young bulls from Imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

REG. GUERNSEY BULLS for sale. Grapewild Farm, Mayhews, Sacramento county, Cal. A. B. Humphrey, Prop., P. O. Box P.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class, thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

JOHN LYNCH, breeder of Registered Shorthorns. Milk strain choice. Young stock for sale. Box 321, Petaluma, Cal.

REGISTERED JERSEY BULL CALF—Six months old—a fine animal. $40 if sold soon. O. J. Ames, Oakdale.

REG. JERSEYS—Herd established 1868. Young bulls from best cows. Rancho Dos Rios, R. 2, Modesto.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED GUERNSEYS—Both sexes for sale. Mrs. Charles G. Lathrop, Stanford University, Cal.

REGISTERED HOLSTEINS—A. W. MORRIS & SONS, Corp., Importers and Breeders, Woodland, Cal.

REGISTERED HOLSTEIN BULLS from A. R. O. dams. J. W. Benoit, R. 2, Modesto, Cal.

CREAM CUP HERD—Registered Holsteins. Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED JERSEY CATTLE—Young stock for sale. W. J. Hackett, Breeder, Ceres, Cal.

PELANDALE HERD of Reg. Holsteins. Young bulls for sale. J. A. Pelanda, Salida, Cal.

SUNNYSIDE HERD—Registered Holstein cattle. R. F. Guerin, R. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma.

BREEDERS OF RECISTERED HOLSTEIN CATTLE—McAlister & Son, Chino, Cal.

BREEDER of Registered Holstein Cattle. Ernest Otto McClure, R. 2, Modesto, Cal.

LINWOOD FARM—Registered Holsteins and imported Guernseys, Santa Cruz, Cal.

N. H. LOCKE CO., Lockeford, Cal.—Choice young jersey bulls for sale.

PACKWOOD FARM HERD for Holsteins. W. F. Mitchell, Visalia, Cal.

HORSES AND MULES.

PURE-BRED Registered Percherons—A few choice young stallions two years old; also two, three and four-year-old fillies, majority in foal, for sale. Los Altos Stock Farm, Los Altos, Cal.

FOR SALE—Prize-winning Shetland Ponies. Selling out. Priced worth the money. Maurice Bucker, Fair Oaks, Cal.

BEEF CATTLE.

FAIR OAKS RANCH, Willits, Cal.—Breeders of registerer Shorthorns, Avondale strain. Yearling bulls for sale.

HOPLAND STOCK FARM—Registered Short-horns. Prices on application. Hopland, Cal.

SIMON-NEWMAN CO., Breeders of registered Herefords. Newman, Cal.

TWENTY Shorthorn Bulls from Nebraska. G. A. Murphy, Perkins, Cal.

SWINE.

I HAVE ANOTHER CROP of seventy-five head of **Big Type Poland China Boars,** born in February, sired by **Iowa Wonder,** who is a son of **A Wonder, the Greatest Poland China Boar, Living or Dead. Iowa Wonder** is in the **1000 lbs. class.** One of his sons from one of my good registered sows should make you money. I will sell the best first. On account of being overstocked will sell them at $20 each while they last, but they will not last long at this price, so act quick if you want an extra good boar for little money. Geo. A. Smith, Corcoran, Cal.

REC. BERKSHIRES—Fine 3 months old pigs, both sexes, by Panama Lee, Gold Medal Winner at 1914 State Fair. Also bred sows. C. E. Barrows, Los Molinos, Cal.

BLATCHFORD'S PIC MEAL weans easily and safely; no trouble; no milk. Write for free folder. "The Safety Route from Pighood to Porkage." Coulson Co., Petaluma.

RECISTERED, PUREBRED BERKSHIRE PIGS—(Weanlings) both sexes. Reasonable prices. Write for full information. J. E. Hall, Sebastopol, Cal.

REGISTERED POLAND-CHINAS—Prize-winning Nebraska stork. Large type. Young pigs for sale. Absolutely guaranteed. Hale I. Marsh, R. 4, Modesto, Cal.

BERKSHIRES—Bred sows, service boars and young pigs. Brae Rourne Ranch, R. 3, Box 172, Santa Rosa, Cal.

BILLIKEN HERD of pedigreed O. I. C. Swine; weaned pigs of both sexes ready for immediate shipment. Pairs and trios mated, not akin. All from big type stock of extra heavy bone. Immunized against hog cholera, crated and registered free. Write for descriptive circular and price list. C. B. Cunningham, Mills, Sacramento County, California.

BLUE-RIBBON HERD DUROC-JERSEY HOGS—Bred Gilts a specialty. 15 bred now. 20 ready to breed. Sires and dams win all blue ribbons 1912, 1913, 1914 State fairs. 15 first, 13 seconds, 6 thirds, 7 fourths, 1 fifth. Will show 1915. For prices, write John P. Daggs, Modesto, Cal.

BERKSHIRES—Headed by Bandmaster 2nd, junior champion Iowa State Fair. My females were winners at Iowa, Wisconsin and Minnesota State Fairs. Farm at San Mateo. Address W. M. Carruthers, 218 Hearst Bldg., San Francisco.

RECISTERED BERKSHIRE SWINE—All ages, for sale. Grapewild Farm, Mayhews, Sacramento, Cal. A R. Humphrey, Prop., P. O. Box P.

25 POLAND CHINA SPRING BOARS—Jan., Feb., March farrow. Prices, registered and crated, $20, $15, $10. Edwd. A. Hall, Watsonville, Cal.

DEL DAYO FARM—(Old Haggin Bottom Ranch)—Breeders of Registered Berkshires, both sexes for sale. P. O. Box 1140, Sacramento, Cal.

PLAINFIELD STOCK FARM—Registered Berkshire and Durors. Young stock for sale. [illegible] H. Bullard, Woodland, Cal.

REGISTERED BERKSHIRE SOWS and their weanling **Quality, health and vigor. Boars, all ages.** W. H. Olson, Turlock, Cal.

GLENVIEW POLAND-CHINAS—Baby pigs from best families for sale. From $15 up. Chas. R. Hanna, R. 3, Riverside, Cal.

IMPERIAL STOCK FARM BERKSHIRES—Quality and price guaranteed to satisfy. [illegible] J. Merrill & Son, Morgan [illegible].

RECISTERED BERKSHIRES — Weanling boar pigs. $10.00 each. A few older boars. J. M. Bomberger, Modesto, Cal.

BERKSHIRES—Utility and Choice Registered Pedigree stock. Correspondence solicited. C. H. Thompson, Novato, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford.

FAIR OAKS RANCH, Willits, Cal.—Breeders of registered Duroc and Berkshire Swine. Weanlings for sale

RECISTERED DUROC-JERSEYS from Eastern sows Six months gilts and boars. S. S. Southwerth, Napa, Cal.

REGISTERED POLAND-CHINA HOGS—Cholera immune. W. D. Trewbitt, Hanford.

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RECISTERED O. I. C. SWINE—C. D. CONWAY, Lakeport, Cal.

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BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers, Shropshires.

MISCELLANEOUS.

OWING TO THE MANY requests of our customers to give them information as to where they can buy or sell dairy stock, we have established a livestock bureau in connection with our office. For anything in this line write us. V. A. Peterson Alfalfa Seed Co., Arbuckle, Cal.

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menced in Elko, Nevada, ten cars being shipped recently.

A full flock of Shropshires will be displayed at the Panama-Pacific Exposition this fall by Chas. Cleveland, Jr., of Gresham, Ore.

One thousand head of cattle were recently delivered to the eastern markets by Thos. Saulsbury for Oxnard & Giles of Merced county.

The five states in the Union which have the greatest number of shearing sheep are, according to rank, Montana, Wyoming, Ohio, New Mexico, and Idaho.

Plans for the biggest and most complete cattle show ever staged at a district fair are being made by the Directors of the Fresno District Fair, a total of over $3,000 having been appropriated for premiums.

Williams & Moore, the Stockton wool factors, recently sold this season's wool clip of Callaghan & Owens of Livermore for 25 cents a pound. This is said to be the best wool sale made in that section since 1870.

Honduras is reported to have about 1,000,000 head of cattle, for which at present there is no market except local consumption. With the opening of the Gulf ports of the United States to Honduras beef, it is reasonable to expect an increase in the cattle industry there.

Frank L. Harding, Sec'y of the American Shorthorn Association, will shortly make a trip to South America, the purpose of his journey being to make a study of conditions there and to endeavor to secure for this country the trade in purebred bulls, which has been going to England.

Kings county dairymen received $140,000 for their product delivered to the creameries during June. The grading rules recently adopted by Kings county creameries have proved very profitable to the dairymen, as is shown by the increase in the cream checks.

It is reported that the destructive Texas fever has broken out in the San Joaquin Valley, 100 head of cattle belonging to Miller & Lux on their Firebaugh ranch having died. Every effort is being made by the Federal authorities and the State Veterinarian to stamp out the disease.

HORSES AND SWINE.

W. A. Young of Lodi recently shipped a fine young Poland China pig to a breeder in Guatemala.

Buyers, reported to be purchasing for the European armies, have been securing horses in the Livermore Valley recently.

Co-operative work against swine diseases is being carried on in Glenn county by the Farm Bureau, assisted by Dr. B. J. Cady of the U. S. Dept. Agr.

A carload of horses was recently shipped from Elko, Nevada, to Denver and Kansas City for the European allies This makes the fifth car to go from that point within the last few weeks.

Rumors in Chicago are to the effect that the trade in horses for army purposes is on the decline; and the best posted men claim that the domestic demand will gain strength from now on.

It is stated that within the last two weeks about $20,000 has been spent by the British Government in Stockton and vicinity for horses for war purposes, 150 horses having been purchased within that time.

We have been notified by Farm Adviser J. W. Mills of Solano county that the movement which started for the holding of a colt show has met with such favor that a regular horse show will be held at Rio Vista in conjunction with the annual water carnival. A committee has been appointed which is getting the horse breeders in line, and it is expected that the show will draw from the region around Rio Vista, extending across the river into Sacramento county and the Islands up and down the river for a considerable distance. Many of the stock growers are now feeding and grooming their stock for the show. Prizes will be awarded. Committees have been appointed at Suisun, Dixon, Vacaville, Cordelia, and Vallejo for the same purpose, but no dates have been set for the shows.

MISCELLANEOUS.

Receipts at the Portland Union Stock Yards for the week ending July 12 were: Cattle, 1000; Hogs, 2700; and Sheep, 1700. Choice steers sold at $7.00; top hogs went at $7.40; and choice lambs sold at $6.50.

The American meat packers whose cargoes have been seized by the British Government have been renewing action in the matter; and it is expected that this complaint will form an important part of the note to be sent to Great Britain in regard to trade interference.

Architects are drawing up plans for a handsome new building to house the San Francisco Veterinary College. It is expected that the structure will be one of the most extensive and best equipped veterinary hospitals and schools in the country.

A number of intending exhibitors in the Middle States have joined for the purpose of making shipments of trainloads of livestock to the Panama-Pacific Exposition. It is contemplated that some of these shipments will be made from the Royal Show at Kansas City.

DUTCH BELTED CATTLE.

To the Editor: Will you kindly state whether the breed of cattle known as the Dutch Belted originated in the United States or in Europe? If the latter, about what time were they introduced in America?—J. G. R., Ceres.

[Dutch Belted cattle originated in Holland during the 17th century, and for two centuries they were owned and controlled by the nobility of that country, who kept them pure and limited their number to nobility ownership. They were first introduced into this country about the middle of the 19th century from Holland and have gradually made progress.—Editors.]

HORSE'S SHOULDERS SORE.

To the Editor: My horses get sore shoulders or collar galls once in a while and I have trouble healing them properly. Can't get the hair to grow again where the sore has been, though I try salves, liniments and washes. Is it a good thing to bathe warm, sweaty shoulders with cold water to harden them? Kindly give me a good healing remedy that won't leave an unsightly blemish.—R. S., Hanford.

[Once shoulders become sore it is almost impossible to prevent blemishes; prevention of such conditions is by far the best remedy. Be sure your collars fit properly. Use the following to rub in the shoulders at night after work: Acetate of lead, 5 oz.; zinc sulphate, 4 oz.; acetic acid, 8 oz.; water enough to make one gallon; shake well before using. Cold water is good to wash off hot shoulders.]



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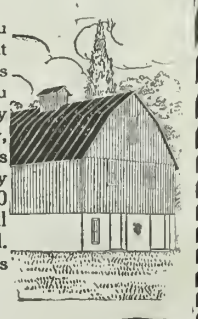
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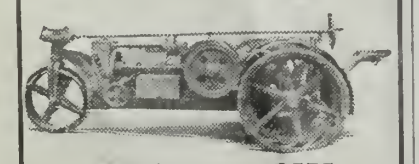
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Veterinary Queries and Replies.

[Answered by Dr. H. D. Wintringham, Petaluma, Cal.]

SCABS ON RABBITS' EARS.

To the Editor: My rabbits have a scab-like appearance of the ears, resembling cold-sores in the nose of a child. I have had purebred Belgians for six years, but never this trouble before. What is it, and what's the remedy?—Mrs. C. N. O., Livermore.

[Your rabbits have ear mange. Get some lime-sulphur solution used for dipping sheep. Warm this and wash the ears every other day. It will disappear in about ten days.]

MARE AFRAID OF AUTOMOBILES.

To the Editor: For the last two months my mare has been very much afraid of automobiles. Although never a runaway, she has always been very nervous. How can I cure this?—M. S. H., Meridian.

[Your mare's trouble is due to defective eyesight. The trouble could be remedied by a thorough examination of the eyes and glasses fitted to the bridle to equalize the defective sight, but this would be very expensive and would have to be done by a man who understood his business.]

BLOOD FOUND ON COW'S TAIL.

To the Editor: The other morning I noticed one of my cows with blood on its tail and I washed her out. Is this a case of contagious abortion, or can it be due to natural causes? I think she has been fresh about three months.—Inquirer, Modesto.

[This may or may not be contagious abortion; the history of your herd would have much to do with a diagnosis in your case. If this cow comes in heat again within the followng three weeks since you found her with this discharge you may begin to suspect contagious abortion. Also, if any of your other cows show like symptoms you may consider you have this present in your herd.]

RUPTURED NAVEL.

To the Editor: I have four calves, two heifers and two bulls—age two and three months—which are ruptured in the navel; have been that way about a month. We feed them milk and cocoanut meal, beside dry pasture to run on. Can you tell cause and if we can do anything to cure them? We also have a fine milk cow which had a swelling in her throat about a month ago; now she has another up on her jaw bone. She has run to barley hay which has some foxtail in it. Could this be the cause? Cow is in good condition and otherwise all right. Has been fresh about four months. We haven't been able to get her with calf yet.—C. C. B., Galt.

[Have a competent veterinarian operate on the calves for the ruptures. This offers the only remedy. Feel for a soft spot on your cow's swelling and when found, lance same with a sharp knife to allow the pus to escape.]

MILK THICK.

To the Editor: I have a Durham-Jersey heifer with first calf, three weeks old. The cow is giving four gallons of milk per day but there is something queer about the milk and cream. Tbe first week after calving the back half of the udder was caked and much lumpy milk was produced; but when the udder became normal and the milk flowed free, the cream was lumpy and part non-soluble in hot water. When thick it does not have the same curdled look found in sour milk, but a more compact mass. We kept her cream separate and find the butter all right so far. Will she improve or will the cream always be the same?—H. H. H., Livermore.

[The condition of your milk is due to the original caking of the udder. The milk is still infected with the germs causing the garget. Give the following to your cow twice a day: Red iodide of mercury, 90 grains; potassium iodide, 60 grains; simple syrup enough to make one quart; dose, one ounce.]

CRUDE OIL FOR SCABBY PIGS.

To the Editor: Please tell me a good way to keep scabs off my white O. I. C. pigs. Does undiluted coal oil sprinkled on them to kill lice hurt the pigs?—Subscriber, Live Oak.

[Undiluted coal oil is too severe to use on animals; a little crude oil painted on their backs and behind the ears is far better. White pigs blister and become scabby in our California climate, and is one of the main reasons why they have never become popular in this state. Provide plenty of shade for them and a clean cement wallow, containing a 2 per cent solution of liquor cresolis compositus, on which is floated about one-half inch of crude oil. Allow them free access to this at all times. Clean out this wallow at least once every two weeks and put in fresh solution. This will not only act as a healing lotion for their scabs and sores, but will also keep them free from lice and help prevent other diseases.]

SWELLING ON HEIFER'S LEG.

To the Editor: My two-year-old heifer, that has been milking for about two months, has a swelling on the inside of the left hind leg, just above the udder. It does not seem to affect the milk or appetite of the heifer. The swelling is the size of a small bowl, is not sore, nor shows any heat or inflammation. It came on suddenly about two weeks ago, and I think has increased in size a little lately.—R. J. S., Crescent Mills.

[Have a competent veterinarian test this cow for tuberculosis. Lance the swelling at its lower point and allow the pus to escape. Syringe out the cavity daily with a 2 per cent solution cresol mixture.]

OLEANDER POISONING.

To the Editor: I had three cows which took sick Thursday, one died Sunday and one on Monday. They did not seem to suffer pain, but stood and lay around part of the time, not noticing anything. The doctor gave them two salts each of two days, then some croton oil and linseed oil; but nothing passed through them. They did not bloat. The veterinary cut both of them open when dead and found nothing that would throw any light on the case; everything seemed normal. Now, the day before they took sick we fed them some lawn clippings; and there were a few oleander sprouts that had grown up around the trees mixed in with the grass. If the oleander was poison, could not a veterinary detect it when he cut them up? One of the cows had been fresh only ten days and he said she had milk fever the last day, but I could not see any difference in them, only this one was more sick than the other one and died a day sooner.—E. P. C., Corning.

[Your cows died of oleander poisoning. The lesions found on autopsy after death from this cause are not characteristic and are often almost entirely absent. The symptoms you describe, however, are characteristic. One oleander top will usually produce death in cattle and horses. There is no specific antidote and cases must be treated symptomatically.]

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Tenant Reclaims Land.

To the Editor: I have 100 acres leveed land on Gridley Island, Suisun Bay, about 20 acres of which are broken and plowed and from wbich I am now hauling hay. The rest of the land is still in thick salt grass sod. I also have 10 Holsteins, 8 milking and 2 coming in, 2 mares, farm truck with platform, walking plow and Acme harrow, 5-room cottage, with running water, 32x32 barn, corrals, and some necessary fences. I desire to lease or rent the ranch on a share basis. This is a natural dairy country. Tbe isolation is the main drawback, having to haul cream 8 miles to a receiving station. Business interests require me to live in the city and I cannot afford to keep a man here. I would wish to lease to an experienced man, whether farmer or dairyman, and would also want a certain amount of tbe raw land broken and cropped annually. Can you give me any ideas of what such a share lease would be? How about the division of expenses, as new plowing, fencing, ditches, leveeing, and other permanent improvements?—R. B. Y., Pittsburg.

[There are many ways in which a fair agreement to both parties could be made, but any such plan is an experiment at best, till it has been tried out. On a much larger ranch than yours, still in the stage of development, a practicable working basis has been in operation several years in this wise: Tbe owner of the land provides buildings, dairy cows, utensils, farm implements, etc., together with sufficient improved alfalfa and corn land for supplying feed to the cattle. Each year a considerable acreage has been reclaimed, leveled, and checked, the owner hiring the labor and paying all other expenses, also paying the tenant a certain sum monthly for superintending the development work. The tenant furnishes all of the labor in farming the land, harvesting the crops, etc.; also all of tbe labor expense in running the dairy; and boards the farm and dairy help. For such work, he receives half of the gross returns from the ranch, as well as half of the annual calf crop. The owner receives enough from his half of the income to continue development work, and the tenant is not only able to make a good salary, but is gradually securing a fine herd of cows for himself. It would not be fair to the tenant to expect him to do your improving unless he secured some recompense for same, either in cash or free rent.—Editors.]

ROOT KNOT ON ALFALFA CROWN.

To the Editor: I am sending you an alfalfa plant that seems to be affected with a disease very much the same as root knot on our fruit trees. I have noticed several crowns of it this season. My stand is 6 years old, planted where I pulled out an old orchard. Can you give me any information as to same, through the columns of the Press?—F. H. Newcomb, Penryn.

[Comments by Professor Horne.]

The alfalfa plant from Mr. Newcomb is affected with a disease known as crown gall of alfalfa. This disease has been reported from a considerable number of places in central and northern California and also from adjacent states on the north and east. We have bad specimens of it for several years, and while it is probably increasing, it has nowhere become destructive so far as I am aware, although in some places it spoils an appreciable percentage of plants.

The name crown gall in this case is somewhat unfortunate, for the reason that these swellings are due to a fungus which does not attack other of our plants so far as I am aware. It has nothing to do with the crown gall of stone fruits and other trees, and there is no possibility of the trouble being derived from the old peach or almond galls left in the soil when an orchard is removed, nor is there any danger of this disease being communicated to fruit trees.

I am not aware that any method of treatment has been worked out for this disease, but I suppose that in case it should become serious the patch should be plowed up and planted to some other crop for a number of years.

Wm. T. Thorne.
University of California, Berkeley.

IMPORTANCE OF FAIRER MARKETING.

To the Editor: I was much interested in the article on "Agricultural Marketing Wastes" in the Rural Press of June 26. There has been too little attention paid to the marketing problem (and it is a big problem) in proportion to the attention that has been paid to the encouraging of the grower to raise more produce.

If less effort was expended in encouraging the grower to raise more (and thereby stand a chance of losing more) and more effort was made to get better returns for what he did raise (at no additional cost to the consumer) then there would be no need of worry about lack of production.—Farmer, Riverside.

SAN DIEGO CO-OPERATION.

Conditions in San Diego county have been such that a market for vegetables was almost lacking. San Diego has not been able to consume them and the outside world has been closed to the grower. The region surrounding the southern city of the sun is blessed with such climatic conditions that they can grow vegetables throughout the winter season. This fact allows them to supply the best trade of the northern and eastern markets, competing with only cold storage second-class goods.

The vegetable producers of San Diego county are organized into the "Ranchers' Market Association," and now signing up acreage for the marketing of winter vegetables. The by-laws of the Association have several features worthy of comment:

Every member must be a grower, allowing no antagonistic party a vote in the affairs of the organization. A personal note for $25 plus $1.00 for each acre cultivated is required. This is used as collateral to borrow money, so no capital stock is required. It is also a guarantee for the fulfillment of the agreement.

A solution of the downfall of many co-operative organizations: "In case any member is offered a price in excess of the price then obtained by the association, said member shall turn said bid over to the association for filling from said member's goods."

Thus if an antagonistic commission man or other party tries to break up the organization by overbidding until the organization is disrupted, the bid will be accepted but used to strengthen rather than weaken the organization.

Each member shall bave a number or mark permanently stamped on every package. Any losses due to quality or packing can be traced to the cause and one producer will not have to stand the losses of a poorer producer. The manager may also aid the poorer grower through showing him how to offer a first-class article.

Each member shall have one vote only. No ring can control the organization, so it must remain distinctly co-operative.

At a meeting held in San Diego July 8 the following officers were elected: H. Culbertson, El Cajon, president; W. R. Edwards, Chula Vista, vice-president; J. R. Blakeston, La Mesa, secretary; First National Bank of San Diego, treasurer; J. R. Blakeston, La Mesa; Walter Starpe, Otay; J. Haughawont, La Mesa Heights; H. Culbertson, El Cajon; J. S. Scott, El Cajon; J. W. Tucker, Nestor; W. R. Edwards, Chula Vista, directors.

Only vegetables will be handled. In order to develop the best markets, the product must be limited in kind and variety, so only the following will be included at present: tomatoes, peas, cabbage, lettuce, rhubarb, peppers and celery. Others may be added from time to time as the membership sees fit.

The Department of Agriculture, in co-operation with the Agricultural College, has sent G. H. Wilson to act as an assistant to Mr. Weinland, and Farm Adviser, and to devote all of his energy to aid the growers in organizing themselves for co-operative marketing.

A shipment of butter for tbe Antipodes was scheduled to leave San Francisco on July 20. It will contain 800,000 pounds.

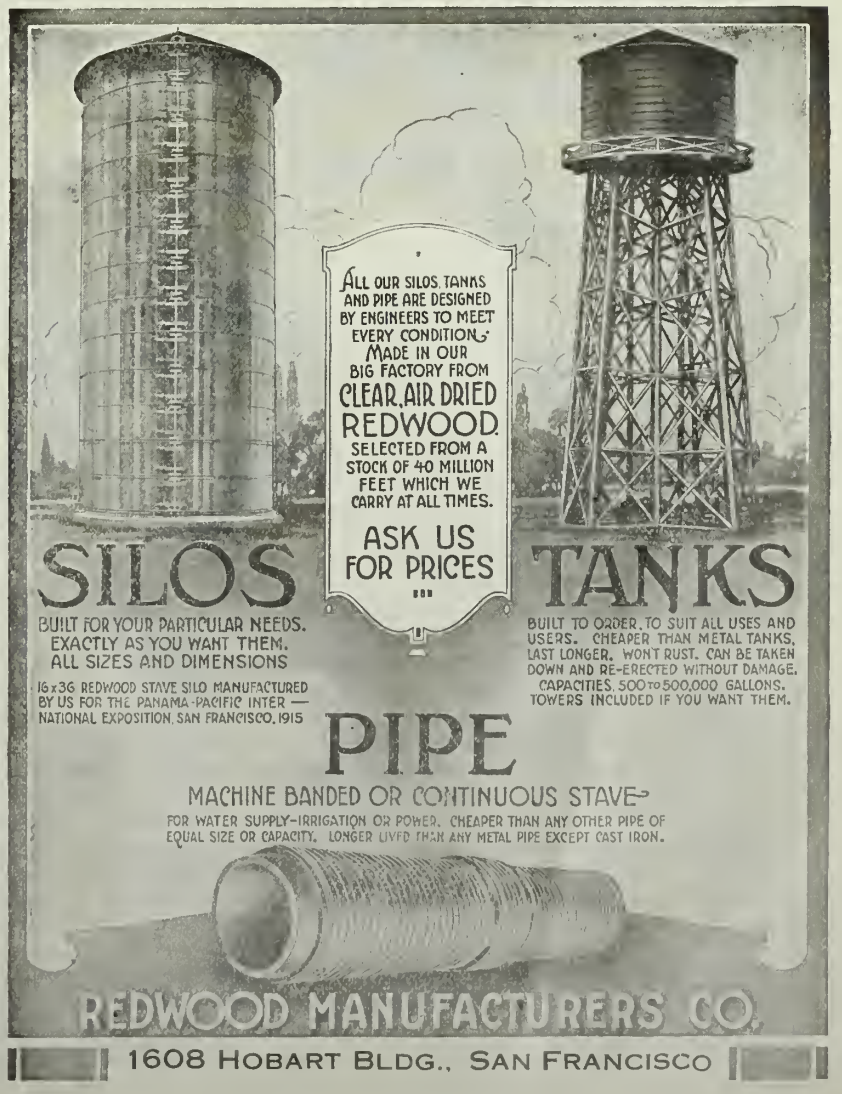
The Southwestern Stockman-Farmer states that there are still unsold for fall delivery some ten thousand very fine threes up native steers in the Flagstaff and Williams country; the Flagstaff sellers of threes feeder steers are holding at 6 and 7 cents. There remain in all northern Arizona less than 5,000 unsold fall yearlings. California buyers offering 5½ cents per pound for fall yearlings are not securing any response as yet.

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Surface Irrigation Pipe
Why Experiment with any other?
AMERICAN STEEL PIPE & TANK CO.
354-56 Pacific Electric Bldg., Los Angeles.
Branch, 1228 "H" St., Fresno.
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LOSSES SURELY PREVENTED by Cutter's Blackleg Pills. Low priced, fresh, reliable; preferred by Western stockmen because they protect where other vaccines fail. Write for booklet and testimonials.
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Use any injector, but Cutter's best.
The superiority of Cutter products is due to over 15 years of specializing in vaccines and serums only.
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THE CUTTER LABORATORY, Berkeley, California.



Farm Poultry for Profit.

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

FARM HANDLING CAUSES LOSS.

The first thing that presents itself to mind when the weather gets up in the nineties is the care of eggs. Are we all doing the best we know to keep them in good condition until they finally reach the judge? The judge, in this instance heing the puhlic. When I see a neighhor go hy with his case of eggs in the back of his buggy, stop his horse to talk to some one in the road, a thing that often occurs in front of where I sit to write, I want to go out and tell him to deliver his eggs first, then come back and talk till morning if he wants to. One hates to meddle, because they ought to know without telling, that a case of eggs should not stand out in the sun.

In farmers' Bulletin 656 W. H. Kerr, Investigator in Market Business Practice, states that there is a total loss of 8 per cent of the eggs marketed. He further says: "Most of this loss is due largely to improper handling hetween the farm and the market. The hens forage for a living, eggs are gathered when convenient, and kept almost anywhere. With such carelessness and a combination of mongrel stock, dirty nests, stolen nests of broody hens, unconfined males, late maturing pullets and other undesirable conditions, is it any wonder that the product includes such a high percentage of small, cracked, dirty, stale, heated, and even rotten eggs?"

Now that is an awful long arraignment to bring against the farmers; and I for one would like to step right up and say, "We have none of that class of people on California farms," but I know that we have, so I'm tongue-tied. Careless people appear to be in the majority all the way from Maine to California. But the worst feature of it is, that merchants buy these eggs and sell them again mixed with eggs from the really conscientious producer as case count, so the one has to suffer for the other.

Quoting again from same Bulletin, the author says:

"Many of these losses can be prevented by: (a) Selecting pure breeds that lay more and larger eggs. (h) Giving better care, food and shelter, with dry, clean, vermin-proof nests. (c) Confining males, except in breeding season. (d) Collecting eggs frequently, especially in hot muggy weather. (e) Storing eggs in a dry, cool place until sold. (f) Using small and dirty eggs at home. (g) Marketing frequently, with protection at all times from heat. (h) Selling for cash on a basis of size and quality, "loss off," instead of case count. (i) Using an attractive package. (j) Combining shipments as a matter of economy.

Several Market Together.—Where there are a few farmers living close enough together, that have eggs all averaging 20 ounces to the dozen, this "egg circle," or co-operative method of marketing would be far better from a financial standpoint than for each one to sell separately. The Bulletin gives full directions for organizing the egg circle, and as it can be had for the asking there is no reason for anyone that can read heing without the very valuable information it contains. Simply write the Department of Agriculture, Washington, D. C., for Farmers' Bulletin 656, giving your name and address, and it will be mailed you free of charge.

We, on this coast, must he prepared to educate the thousands of immigrants that will come to us from other lands as soon as the war is over. The Pacific Rural Press will be a text book for them from which they will get their first lessons and we shall need to remember that. The very first lessons I learned on American cooking were taken from The Rural New Yorker. And I remember one time a real Yankee had supper with us one night on the prairie and I had Johnny cake for one dish. This man ate a piece of Johnny bread, reached out for another, and said, "Say, did I understand you were English?" My husband said, "That's what we are." "But say," he insisted, "nohody but a Yankee woman could make Johnny cake like that." After a good laugh my hushand told him I was a pretty good imitator when I had a printed recipe and the materials to boot at hand. Every body has to learn, and the "printed word" that is taken from a reputable farm paper is always taken at its face value, without any doubts or fears as to results.

Knowing these facts should make writers very careful, and I believe it does, because we all feel the responsibility.

Bran and Cottonseed Meal. — In what way is bran good for chickens? Is cottonseed meal good for them, how much should they have and in what way is it beneficial?—Mrs. F. C.

Bran is good for chickens because it is rich in protein and mineral. Young chicks fed partly on bran rarely have leg weakness or any such trouble. Feeding bran to hens helps make shell besides playing a great part in the egg proper. The value of cottonseed meal for poultry is doubtful. It is very hard to digest and requires more energy than heavy laying hens can spare. Personally I would rather pay five times more for a pound of pure flax seed meal than I would for cottonseed meal. Another thing against it is that it is constipating; and while it may contain some food value the hen has to wrestle with it to get it out.

Home Made Balanced Chick Feed. —Please give us a balanced ration for chicks two months old and up. Have been feeding ready-mixed chick feed, but it is too expensive when they get that age.—J. H.

One gallon of cracked wheat; one gallon cracked or whole Gyp corn; half pint millet seed; half pint hemp seed, one quart of oat groats or pearl barley and two pounds beef scrap.

This makes a little finer feed than the average; the millet can be left out for chicks two months old and if small wheat can he obtained it would do as well as cracked wheat. Of course the chicks should have some mash besides. For this, good heavy bran and ground oats and gyp corn with a little bone meal and beef scrap added will make a good growing ration. Bone should be about 5 pounds to the hundred and beef scrap about ten pounds to the hundred of other feed.

A friend of Nat Goodwin was staying with the actor at his home in California, in the hope of obtaining relief from chronic dyspepsia. One day he was taking a walk along the beach with his host.

"I have derived relief from drinking a glass of salt water from the tide," said the invalid solemnly. "Do you think I might take a second?"

Goodwin reflected deeply. "Well," he replied with equal seriousness, "I don't think a second would be missed."—Osteopathic Magazine.



Gas Stove Convenience with Kerosene

Hot in *Your* Kitchen?

No need of it if you cook with a good oil stove. The heat is concentrated on the cooking—not radiated throughout the room.

New Perfection Oil Cook-Stove

For Best Results Use Pearl Oil

Abundant heat—always ready at the touch of a match—like gas. Can be turned out the minute you finish cooking. Cooks anything your wood or coal range does—and there's no heavy hods to lug—no dirt or ashes. No odor. Does not taint the food. Ask your dealer. See Exhibit, Palace of Manufactures, Panama-Pacific Exposition.

STANDARD OIL COMPANY
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SOLD BY ALL DRUGGISTS AND GROCERS

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SOLD AT ALL GENERAL STORES

If your dealer has not yet got Flykill in stock, send ushis name and 30c in stamps and we will send you a full-size bottle, securely packed, by mail.

POULTRY NOTES.

[By Geo. H. Croley, President California Federated Poultry Assn.]

We have received the 1915 edition of Standard of Perfection, published by American Poultry Association. This is the standard by which the Fancy or Standard bred fowls will be judged at the Panama-Pacific Poultry Show in November. It contains 368 pages illustrated with numerous engravings; cloth binding, price $2.00 postpaid.

In former issues we stated that two attendants would be allowed to accompany full carloads of poultry shipped to the Poultry Show at the Exposition. The railway companies interested have decided that the express companies may only allow one attendant to travel in the car free and have made a ruling to that effect.

T. E. Quisenberry, Superintendent of Poultry at the Exposition, has returned from a trip to the eastern states and is now preparing an interesting program for the meeting of the American Poultry Association and for the week in November occupied by the Panama-Pacific Poultry Show.

Besides the question of a poultry text book for public schools, the breed standard, the market poultry and egg standard, the report of important committees, new business of great importance, social gatherings, sight seeing trips, and many other things that will add to the pleasure and benefits to be derived from these two great meetings, there will be a series of lectures delivered by some of the most prominent poultrymen of this country.

I wish to inquire whether it would be possible to purchase day-old ducks or geese in the early fall and whether they could be successfully raised at that season. If so, can you furnish me the address of such hatchery?—M. C., Tranquillity.

It is possible to produce duck and goose eggs that are fit for hatching in the early fall, but only a very few breeders understand how to do so; besides, at that season of the year the demand for day-old ducklings and goslings is so limited it is practically impossible to find any one prepared to supply them at that time. If hatched from good fertile eggs ducks and geese may be raised in California at any season of the year, but abundant shade is absolutely necessary in hot weather.

I have a number of Rhode Island Red chickens a few weeks old with very few feathers. What is the cause of it? My neighbors say it is feather lice. If so, is there anything I can do?—Mrs. Wm. J., Modesto.

It is natural for the larger breeds of fowls, such as Rhode Island Reds, to be more or less scantily feathered at certain periods of chickhood, but the lack of feathers might be, to a certain extent, due to feather lice. If these are present they may be readily detected by examining the chicks. They are usually found on the larger feathers of the wings and tail. Any good insect powder or very fine flowers of sulphur rubbed into the plumage will destroy them.

STATE POULTRY SHOW.

The poultry show to be held at Sacramento January 14-18, 1916, will be a joint exhibit of the Sacramento Poultry Association and the California State Poultry Association. In order to provide the newly organized State association a means of economically giving an initial show, the Sacramento local association has generously delegated the entire management of this show to the officers of the State association, which naturally is not yet financially strong enough to carry through an independent show. C. A. Wilkins, Sacramento, the secretary, states that W. S. Russell and C. G. Hinds have been appointed as judges and that the other judge will be announced later.

SCABS IN RABBIT EARS.

The scabs in the rabbits' ears mentioned in the issue of July 17 seem to have been destructive to quite a number of rabbit owners, and is called the "ear and mouth disease."

The ears seem to fill up with a scab from somewhere deep down, looking at first like ear-wax, according to Mrs. C. N. Oaks of Alameda county. Several of her Belgian hares were badly affected, and were first noticed when they refused to eat.

To treat them she diluted peroxide of hydrogen with an equal quantity of water and poured it into the ears. One buck which had refused to eat for three or four days and seemed certainly lost was treated twice on Sunday and began to eat again Monday. It is doing very nicely now, while the others which were affected are practically well.

Classified Advertisements.

WANTED.

WANTED—About seventy-five young men and women to enter the WESTERN NORMAL on August 30th, to prepare for teaching. Western Normal graduates secure and hold good positions. We assist graduates to secure good positions and promotion. We save you time and money. For information address, WESTERN NORMAL, I R Humphreys, Principal, Stockton, Cal., Box 704.

WANTED—LADIES to act as our agents in every community, to introduce the SUN FRUIT PRESERVER. Successful everywhere. Makes delicious sun-rayed strawberries, jellies, marmalades and fruits without fuel. Every home should have a SUN FRUIT PRESERVER. Good commissions paid. Full particulars sent on request. Write now to E. E. Dow & Co., Redlands, Calif.

YOUNG MAN, single, desires work on fruit farm for sake of more experience; or responsible position on poultry plant. Twelve years at chicken business. Expert knowledge of poultry equipment. References. Address Box 65, Pacific Rural Press.

WANTED—Experienced, practical cattle man to manage large number of cattle in Central California. State age, experience, whether married or single, and salary heretofore commanded. Box 66, Pacific Rural Press, San Francisco.

GOOD TERRITORY open for agents or fertilizer salesmen in California to handle Radio-active-earth (Radium residue) for mixing with fertilizers. A. M. Wells, 633 Van Nuys Building, Los Angeles, Calif.

WANTFD Farming foreman of thorough experience to take charge of large farming operations. State salary received heretofore, age and size of family. Box 67, Pacific Rural Press, San Francisco.

WANTED—Dried fruits, nuts, honey, beeswax, beans, etc. J. E. Lawrence, 326 Clay St., San Francisco.

MISCELLANEOUS.

COMMERCE AUTO TRUCKS—Brand new. Regular price, $1075 f. o. b. San Francisco, $950 if you buy it now. Box 54, Pacific Rural Press.

SUCCESSFUL FARMERS are buying Lumber from us at wholesale prices. No. 1 dimensions, $9 at the mill Send us your lumber bill for figures. Our prices are lowest in the country, on quality lumber. Buy while prices are at bedrock. Pacific Mill and Timber Co., First National Bk. Bldg., San Francisco, Cal.

USE BROOMS MADE BY THE BLIND—All qualities guaranteed. Prices from 25c to 60c. Send for our price list. Help our blind workers to be self-supporting San Francisco Association for the Blind, 1526 California St., San Francisco, Cal.

SECOND HAND WATER PIPE and screw casing. New threads and couplings dipped in hot asphaltum. All guaranteed. Send us your inquiry. SHECTER PIPE WORKS, 306-8 Howard St., San Francisco.

LIVING EXPENSES REDUCED THROUGH CO-OPERATIVE BUYING.—Open to all. Write for catalog and particulars. Organizers wanted. Pacific Co-operative League, Dept. D, 236 Commercial St., San Francisco.

"SMITHS' PAYS THE FREIGHT."—To reduce the high cost of living send for our Wholesale to Consumer Catolog. SMITHS' CASH STORE, 106 Clay St., San Francisco.

PROTECT YOUR IDEAS—Write for free patent books. Patents advertised for sale at our expense. Advice free. Pattison and Company, 971 G Street, Washington, D. C.

AIREDALE PUPS—10 weeks old; best strain; country bred; very reasonable. Pedigree and price on application. Box 102, Calistoga, Cal.

LAND FOR SALE.

FOR SALE—Beautiful mountain ranch one mile from Nevada City. Nine-roomed house and outbuildings. Land highly cultivated. Trees, vines, shrubs, poultry, cows, horse and buggy. Abundance water. Address Owner, Ben Tonella, Nevada City, Cal.

FARMS WANTED—We have direct buyers. Don't pay commissions. Write describing property, naming lowest price. We help buyers locate desirable property Free. American Investment Association, 93 Palace Bldg., Minneapolis, Minn.

FREE—TRUE BLUE 1915 BOOKLET—Tells the "How," "Why" and "Where" of overlooked State and Government land bargains near you. Write California State Land Information Bureau, 1511 K St., Sacramento, Cal.

FOR SALE—One-acre place, bungalow, 6 rooms, newly furnished. Pumping plant, engine, tank, etc. Water piped over place. 32 varieties fruits, vegetables now growing abundantly. Excellent soil. Climate unsurpassed. No trade. W. S. Miller (owner), Mountain View, Cal.

CALIFORNIA LAND—Money-making little farms. High-class, low-priced in all counties. First mortgage loan on farms bearing 7 to 9 per cent. Call or write the oldest land office in California. C. M. Wooster Co., 303 Phelan Bldg., S. F. Catalog free.

CITRUS LANDS FOR SALE at one-half its value, near Lemon Cove and the famous Merryman ranch, on electric line. For description and price, write or call on A. G. Griswold, Exeter, Cal.

FOR SALE—20 acres near Manteca, South San Joaquin Irrigation District. Adapted to alfalfa, almonds, etc. Rural Route. Bargain. C. A. Keltner, Manteca, Cal.

STOCK RANCHES for sale in Eastern Oregon. Principal only need apply. 2509 Prince St., Berkeely, Ca

TREES AND NURSERY STOCK.

WANTED—Any orchardist with sick, stunted or unproducing trees, to write to me for advice about handling the condition. A. M. Wells, 633 Van Nuys Building, Los Angeles, Cal.

BURBANK'S SPINELESS CACTUS—Hardiest varieties Melrose and Special. Strong, mature slabs, $8.50 per 100; $50 per 1000 Labranza Ranch, Athlone, Merced Co., Cal.

GENUINE BURBANK SPINELESS CACTUS—Strong, mature slabs, $6 per 100—$50 per 1,000. Theo. Cathers, Morgan Hill, Cal.

Poultry Breeder's Directory

BABY CHICKS!! Barred Rocks, Rhode Island Reds, Black Minorcas, 11 cents; White and Brown Leghorns, 8 and 9 cents. First-class stock. Prompt delivery. Roofden Poultry Ranch, Campbell, Cal.

WHITE PLUMAGE Poultry Farm and Hatchery. Sells White Leghorns, Barred Rocks, Rhode Islands Reds, Baby Chicks. Circular free. H. A. Schlotthauer, Exeter, Cal.

WE ARE BOOKING ORDERS for Fall and Spring hatching now. White and Brown Leghorns; Barred and White Rocks; Black Minorcas, Rhode Island Reds; Buff Orpingtons and Anconas. No deposit required with order until 30 days previous to delivery of chicks. Large orders a specialty. Santa Clara Valley Hatchery, R. 6, San Jose, Cal.

GOING FAST AT $1.25 EACH—March hatched S. C. White Leghorn Cockerels from heavy layers. Every hen on the ranch trapnested.. Hudson Bros., Escondido, Cal.

BARRED PLYMOUTH ROCKS—"The kind that Win and Lay." Choice stock for sale. Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

CROLEY'S EVERLAY EGG MASH AND CROLEY'S SCRATCH FEED form a perfect balanced ration. Ask your dealer for them.

TRAPNESTED LEGHORNS—White and Buff Stock. Eggs, chickens. Arthur R. Schroeder, Box 179E, Mountain View, Cal.

ORPINGTONS, BUFF AND WHITE, Black Minorcas and Carneux pigeons. Mrs. Susan Swaysgood, Pomona, Cal.

HARES AND RABBITS.

BOSWORTH'S Imperial Red New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville, Cal.

BELGIAN HARES—Young stock for sale. Hurd Bros. St. Helena, Cal.

TURKEYS, DUCKS AND GEESE.

HART'S STRAIN OF BRONZE TURKEYS—Young stock of both sexes for sale. Eggs by the setting or hundred. Also eggs from sepcial matings. Albert M. Hart, Clements, Cal. (Successor to Ed. Hart.)

CHICKENS, DUCKS, GEESE, GUINEAS, PEA FOWL. Address Wm. A. French, 545 W. Park St., Stockton, Cal.



Now is the Time to Feed
Coulson's Egg Food

to your pullets as well as your hens, commencing at the age of three months.

Write for free book "Chickens" from shell to market.

COULSON CO.
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HOPLAND STOCK FARM
HOPLAND, CAL.

Standard Bred S. C. White Leghorn Cockerels, selected for Breeders. **Four months old, $12 per dozen; Yearling Hens, $12 per dozen.** Standard Bred White Plymouth Rock, Fishel and Owen Farm Strains **Direct.** Hens one and two years old $18 to $24 per dozen. Four to five months old pullets, $18 per dozen. Selected Cockerels and Cock Birds, $5 each and up.

California Poultry Practice

Written to Teach Better Poultry Methods on the Farm.
By Mrs. Susan Swaysgood.

Every poultry raiser of California should have this book. It is very practical and will help make your business profitable. In the preface of the book the author says:

"This book is not an accident; it is born of a desire to help others to avoid the stumbling-blocks in the poultry business, and at the request of many readers of The Pacific Rural Press, and other papers.

"With forty-two years of experience with poutry it is expected that I have learned a few things about it; it's a poor business that does not teach lessons in that length of time. Don't you think so?

"There are books, yes, books without number, on poultry matters, but many of them are mostly theory. This book tells you just what I have done and how I would do it.

"It is a book of action, and it is action that counts these days. We have to act in the living present if we want to live. I want to live and I want others to live, too, and as I have learned these things by experience it is fitting that I should tell others how to obtain results without paying such a big price for the experience.

"The things told you in this book are original, unorthodox, but strictly practical; and if you will read and then heed, you will be well satisfied that the author has given you your money's worth. California is an empire in itself, and I am sure there are enough men and women engaged in the poultry business, or wanting to get into it, to call for a million copies of this book, though its only claim is that it is needed."

The book contains 157 pages, besides illustrations. The 45 chapters cover every phase of poultry culture from eggs to hens, and from hens to market. Feeding, housing and parasites.

Price, cloth-bound, postpaid, $1.00.

Pacific Rural Press, Publishers

525 Market Street, San Francisco.

The Home Circle.

THE DEAREST SPOT ON EARTH.

The dearest spot on earth to me
  Is home, sweet home;
The fairyland I long to see
  Is home, sweet home;
There how charm'd the sense of hearing,
There, where love is so endearing!
All the world is not so cheering
  As home, sweet home.

I've taught my heart the way to prize
  My home, sweet home;
I've learned to look with lover's eyes
  On home, sweet home;
There, where vows were truly plighted,
There, where hearts are so united!
All the world beside I've slighted
  For home, sweet home.

—W. T. Wrighton.

BILLIE FAIRFIELD'S PROMISE.

When Billie took the milk to Mrs. Selden one morning, and she asked him if he would bring another quart that night, he said "Yes'm" promptly, and then never thought of it again until he was in bed.

"Well, I can't take it now," said Billie; but he could not go to sleep, though he turned and tossed and twisted till he was tired. At last he went to the head of the stairs, and shouted, "Mother!"

Mrs. Fairfield had just threaded her needle and stretched a stocking with a big hole in it over her hand. She said, "Oh, dear!" but she went to see what Billie wanted.

"You'll have to go now," she said quietly, when he had told her.

"Oh mother! I can't go away up there alone." Mrs. Fairfield knew that, for Billie was never out alone at night. His father had gone to bed downstairs with the baby; and, if they waked him, baby would wake too. So Mrs. Fairfield thought a minute. Then she said: "We'll see. I'll have the milk ready when you come down."

When Billie got into the kitchen, his mother stood at the door with her hat and shawl on. Billie began to feel ashamed. He wished he dared to go alone; but he did not, for it was a lonesome road. He took the milk, and they tramped over the snow up the long hill without a word. The wind blew in their faces, and Billie's ears were cold; but he had the milk-can in one hand, and pulled his sled with the other, so there was no way to warm them. He was ashamed to ask his mother to take the milk.

Mrs. Selden exclaimed when she opened the door: "Why, what made you come away up here to-night? And you, too, Mrs. Fairfield! It's too bad! I could have got along somehow without the milk."

"Billy promised you," Mrs. Fairfield answered. And Billie wished nobody would look at him.

"'Twasn't any matter, she said, mother," he urged, when they had started for home again.

The wind was in their backs now, and Billie's ears were warm.

"The matter was your promise, Billie," said his mother. "Would you break a promise just to get rid of walking up to Mrs. Selden's!"

Billy made no answer. He was ashamed again.

Presently he asked his mother if she would slide down hill. Mrs. Fairfield laughed; but she tucked herself up on the front of the sled, while Billie stuck on behind, and they slid down the long hill to their own yard, where Billie skillfully steered in. His mother praised the way he managed his sled, but Billie was still uncomfortable.

"Why don't you say something to me, mother?" he said, while they were warming themselves at the big coal-stove.

His mother smiled at him.

"I'll tell you how you will be punished, Billie," she said. "It's too late to finish mending these stockings tonight, so I shall mend them tomorrow when I was going to make a cottage pudding, and there'll be no pudding for dinner."

He and his father would say "cottage pudding" to each other for a long time afterward if anything was in danger of being neglected or forgotten. When Billie had grown to be a man, and people said, "Just give me Billie Fairfield's word; that's all I want," Billie would smile, and say, "Yes, my mother taught me to keep a promise."—A. M. L. Hawes, in Sunday School Times.

COMRADES.

Bobby was ten years old, and an alarmingly light-hearted and careless young person. It was supposed, however, that he would be capable of escorting his grandmother to the family birtbday dinner, one block away from her home, without mishap.

He was tall for his age, and he offered his arm to his grandmother in a gallant and satisfactory manner as they started off together.

"I hope he will remember that she is almost ninety, and not try to hurry her. I'm sure I've cautioned him enough," said Bobby's mother, as she began to dress her younger children. But, when she arrived at the family party, it appeared that grandmother had turned her ankle, and was lying on the lounge.

"Bobby," said the mother, reproachfully, "where were you when grandma slipped?"

"Now I won't have that boy blamed," said grandmother, briskly, smiling up into Bobby's remorseful face. "We came to a fine ice-slide, and he asked me if I thought we could do it, and I told him I did. And I want you children to remember one thing: when you get to be 'most ninety, you'll count a turned ankle a small thing compared with having somebody forget that you've outlived everything but rheumatism and sitting still. Anybody that likes can rub this ankle a minute or two with some liniment, but I want Bobby next me at dinner, mind!"—Youth's Companion.

AUGUST WORK WITH FLOWERS.

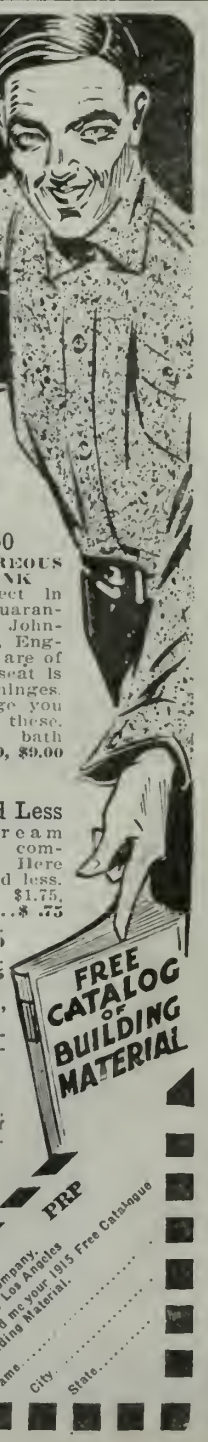
The work in the flower garden for August is important if you expect to have fall blooms from dahlias, chrysanthemums, begonias and roses.

Amaryllis should be helped through the ground with a little water, and more wetting as the flower stems break through.

Asters need water and liquid manure to do their best, but when flowers appear water the roots only to get best blooms. Chrysanthemums should be protected from leaf lice with tobacco extract or tobacco dust thrown into the leaf clusters where they first appear. If your plants have not been staked you should do so before blooms weight them down. Give plenty of water and some liquid manure. Dis-budding of selected shoots should be carefully attended to.

Cuttings of favorite roses may now be put in; select half-ripe wood which has perfected its flowers. Pieces of stem about four inches long, with heel or cut just below the joint will do. Insert in sheltered, sandy soil and let them remain un-

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CATALOG of BUILDING MATERIALS
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—For the rancher, the householder or for any man who wants to save 20% to 40% on Building Material this FREE CATALOG is invaluable. It illustrates, describes and prices the complete stock of the largest concern of its kind west of Chicago. It is saving 20c to 40c on every Dollar for thousands of satisfied customers. Send for your copy—Today!

Long and Short Handled
SHOVELS
at Wholesale Cost

—This is a great opportunity for farmers, contractors, improvement and development companies, to secure quantities of shovels for present as well as future needs.

Whether You Buy One or a Dozen You Can Save Money

—They are all in good working condition, have been slightly smoked by reason of having been in a ship that caught fire, but this in no way affects their usefulness.

Long Handle, Round Point Shovels, per doz...$4.85 or 50c each
Long Handle, Square Point Shovels, per doz...$4.85 or 50c each
D Handle, Round Point Shovels, per doz.....$4.15 or 50c each
D Handle, Square Point Shovels, per doz.....$4.15 or 50c each
Long Handle Spades, per dozen .....$3.75 or 40c each
D Handle Spades, per dozen .....$3.75 or 40c each
Long Handle Scoops, per dozen .....$3.75 or 40c each
D Handle Scoops, per dozen .....$3.50 or 40c each

26-Gauge Painted Corrugated Iron Per 100 Sq. Feet.. $2.60

$30 Fiber Wall Board for $19
—Has three layers of fiber with waterproof composition between the layers. Nothing better for finishing new or refinishing old walls. Of the same workmanship and quality as the kind that most dealers sell you for $30 and more per thousand square feet.

$1.80 Oil Wood Stain $1.00
$2.80 Oil Wood Stain $1.50
—A fine quality oil wood stain for interior finishing. Much used for bungalows, etc. Makes a fine lasting finish.

65c to 75c Shingle Stain 50c
—All colors of shingle stain except gray that should be selling at 65c to 75c per gallon, now going at 50c per gallon, in five-gallon lots.

READY ROOFING (Paper)
$1.15 to $1.75
1 ply Double Sanded, per roll.....$1.15
2 ply Double Sanded, per roll.....$1.40
3 ply Double Sanded, per roll.....$1.65
1 ply King, per roll $1.25
2 ply King, per roll $1.50
3 ply King, per roll $1.75
Snow-white Roofing Paper, per roll $1.75

$2.25 House and Floor Paints, $1.25 Gallon
—Secured by us at bankrupt sale; lot includes many famous brands. Good assortment of colors.

$2.50 Varnish Remover, $1.75 Gallon
—The famous Hi-Lo varnish remover, said by many to be the most practical of the many varnish removing preparations.

$2.25 Wall Paints, $1.25
—Made especially for use in kitchens, bathrooms, etc., as steam and heat do not affect them. Can be washed with soap and water without injury.

12c Wall Paper Paste, 10c Pound
—Dry wall paper paste, the kind that we sell to regular paper hangers. Other stores sell this regularly for 12c our price, 10c pound.

TOILETS AT $15.50
COMPLETE WITH VITREOUS CHINA BOWL AND TANK
—These toilets are perfect in every respect and fully guaranteed. Made by the famous Johnson Bros., Hanley Limited, England. Both bowl and tank are of vitreous china, and wood seat is fitted with finest post hinges. Other dealers would charge you at least $20 for toilets like these.
—Special steel enameled bath tub $8.00. Other sizes $8.50, $9.00 and $10.00.

Freezers ½ and Less
—Dana Ice Cream Freezers always command full price. Here they are at ½ and less.
2-quart size, reg. $1.75, now .....$ .75
3-quart size, reg. $2.25, now..$1.00
4-quart size, reg. $2.50, now..$1.25

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til growth commences. With older bushes thoroughly soak the ground, dig in some fertilizer and you will have fine Thanksgiving roses.

Chinese primrose seedlings should be started for winter flowers.

Beginnings may also be made in the planting of bulbs for winter blooms. Wet and dig the soil deeply, and keep moist till the fall rains come.

Cultivate the ground around violets, water, and remove runners. Mulch lightly with manure.

Sow seeds of pansies, hollyhocks, canterbury bells, carnations and other early spring flowering plants. Early sown seeds make plants which will give blooms early in the winter and last into spring.

Attend to watering and fertilizing dahlias and cannas. Stir soil frequently and keep well staked. Dahlias should give good blooms during August, September and October. Some plant lovers have fine dahlias as late as Christmas.

FADS IN THINGS TO EAT.

Celery is invaluable as a food for those suffering from any form of rheumatism, or diseases of the nerves and nervous dyspepsia.

Lettuce for those suffering from insomnia.

Watercress is a remedy for scurvy.

Peanuts for indigestion. They are especially recommended for corpulent diabetes. Peanuts are made into a wholesome and nutritious soup, are browned and used as a coffee, are eaten as a relish simply baked, or are prepared and served as salted almonds.

Onions are almost the best nervine known. No medicine is so useful in cases of nervous prostration, and there is nothing else that will so quickly relieve and tone up a worn-out system. Onions are useful in all cases of coughs, colds, influenza; in consumption, insomnia, hydrophobia, scurvy, gravel and kindred liver complaints. Eaten every other day, they soon have a clearing and whitening effect on the complexion.

Spinach is useful to those with gravel.

Asparagus is used to induce perspiration.

Carrots for sufferers from asthma.

Turnips for nervous disorders and for scurvy.

Raw beef proves of great benefit to persons of frail constitution and to those suffering from consumption. It is chopped fine, seasoned with salt, and heated by placing it in a dish of hot water. It assimilates rapidly and affords the best nourishment.

Eggs contain a large amount of nutriment in a compact, quickly available form. Beaten up raw with sugar, they are used to clear and strengthen the voice. With sugar and lemon juice the beaten white of egg is to relieve hoarseness.

Honey is wholesome, strengthening, cleansing, healing and nourishing.

Fresh ripe fruits are excellent for purifying the blood and toning up the system. As specific remedies oranges are aperient. Sour oranges are highly recommended for rheumatism.

Cranberries for erysipelas are used externally as well as internally.

Lemons for feverish thirst in sickness, for biliousness, low fevers, rheumatism, coughs, colds, liver complaint, etc.

Blackberries are a tonic. Useful in all forms of diarrhoea.

Tomatoes are a powerful aperient for the liver, a sovereign remedy for dyspepsia and indigestion. Tomatoes are invaluable in all conditions of the system in which the use of calomel is indicated.

Figs are aperient and wholesome. They are said to be valuable as food for those suffering from cancer; they are used externally as well as internally.

JUDGMENTS.

No man should let the alimony stand between a woman and her happiness.

A friend in need is a friend in hiding.

Be not weary in well doing. Automobiles do their best work when thoroughly tired.

The sincere civil service reformer is the department clerk who holds over from the last administration.

"Monkeys in the zoo object to being finger-printed." Humiliating, but conclusively supporting the Darwinian theory.

Statesmen may go as far as they like in cutting out public expenditures in which the other fellow is interested. If they take us for the other fellow, they may be long on rectitude, but they'll be short on votes.—Judge.

WANTED TO KNOW.

One evening at the opera a man, from the country evidently, seemed very restless and constantly consulted his programme. He was much agitated and not much accustomed to address strangers.

Finally his curiosity got the better of him and, turning to the man sitting next to him, he said: "Excuse me, but can you tell me, have they begun to play Wagner, or are they just tuning their fiddles?"—Ladies' Home Journal.

USES OF STALE BREAD.

Stale bread, if heated in a closely-covered pan, becomes almost like new. Keep pieces of stale bread by themselves in a jar or covered bowl. Stale slices may be used for toast. Dry broken pieces in a warm oven until crisp, but not brown. Crush them on a board with a rolling pin; sift the crumbs and keep them in a jar to use for croquettes, etc. They will keep several weeks. Coarser or browned crumbs may be used for the tops of scalloped dishes. Stale crumbs not dried are suitable for bread pudding and filling of scalloped dishes.

Hon. Benjamin Kimball, one of New Hampshire's well-known railroad men, is said to have complained to one of the butchers at Gilford about the quality of meat supplied, saying: "That lamb you sold me must have been old enough to vote. It was so tough I could hardly cut it." "Oh," said the butcher, "that is nothing; Tom Fuller said the last piece of meat he bought of me was so tough he could not get his fork into the gravy."

"Look here, Matilda," said a Galveston lady to the colored cook, "you sleep right close to the chicken-house, and you must have heard those thieves stealing the chickens!" "Yes, ma'am, I heerd the chickens holler, and heerd de woices ob de men." "Why didn't you go out, then?" "Case, ma'am"—bursting into tears—"case, ma'am, I knowed my old fadder was out dar, and I wouldn't hab him know I'se lost confidence in him for all de chickens in de world!"

"It's a beautiful day." "Yes," replied O. U. Grouitsch, the noted pessimist, "but unseasonable for this time of the year."—Baltimore American.

Mother (who is teaching her child the alphabet): "Now, dearie, what comes after 'g'?" The Child: "Whiz!"—Judge.



The Great Ant Killer.

A Simple Method of Dealing with This Pest

All sorts of remedies have been tried by housewives in the effort to exterminate the pesky little ant—an insect which has always been one of the most aggravating pests with which the good housewife has had to contend.

Invariably, however, these efforts have been without success, until the discovery of a paste by a baker in Los Angeles, which showed women the way to rid themselves of this annoyance forever.

This paste seems to have uncanny powers over ants. It not only drives them out of a house or store, but keeps them out thereafter. Originally prepared for the use of the inventor in his own shop, its fame soon spread with such rapidity as to cause its being placed upon the market for general use.

This little remedy is known as Kellogg's Ant Paste, and can be obtained at all modern druggists or grocers. Try a package today—and watch your ants disappear forever.

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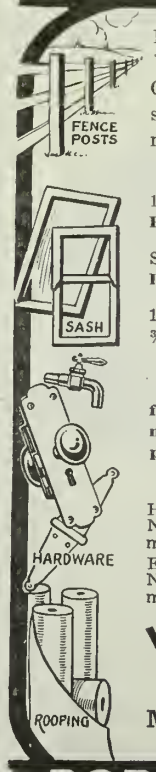
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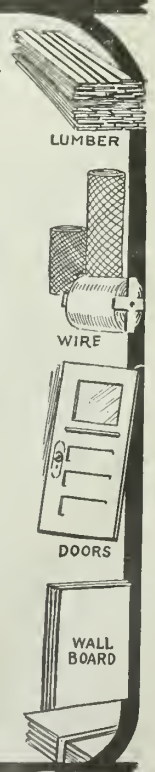
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READY BUILT HOUSE COMPANY,
973 BROADWAY, PORTLAND, ORE.

The Markets.

Unless otherwise noted, prices are f. o. b. San Francisco.

San Francisco, July 21, 1915.

WHEAT.

The wheat market made a further advance this week in the East; and in consequence almost everything is firmer here. In the local market Club is still quoted as before, but other varieties have been marked up.

Cal. Club, ctl	1.72½ @ 1.75
Forty-fold	1.80 @ 1.85
Northern Bluestem	1.95 @ 2.00
Northern Club	1.72½ @ 1.75
Northern Red	1.75 @ 1.90

BARLEY.

Barley is also advanced in sympathy with the increased inquiry for export; and it is believed that a further upward movement may come at any time. Advices from Coast points show a smaller crop than was anticipated.

Choice Feed, ctl	$1.17½ @ 1.20

OATS.

Oat prices are stationary, probably because there is little or nothing offering. The feeling is for a firm market due to inquiries for export.

Red Feed	$1.35 @ 1.45
White	1.45 @ 1.50

CORN.

The market is very firm, with advances in some lines. There is nothing much offering in Californaia Yellow, which is now quoted at $1.80 to $1.85. Eastern Yellow is also up five cents. There is now no White in the market; but dealers say that choice White would bring $1.90 to $1.95 if any were to be had.

California Yellow	$1.80 @ 1.85
Eastern Yellow	1.85 @ 1.90
Milo Maize	1.75 @ 1.80
Manchurian	1.40 @ 1.60

BEANS.

The bean market is reported very quiet this week, with a general tendency to hold off transactions until a better idea of the size and quality of the new crop can be had. There is not much inquiry at present either for spot or future beans. There have been no changes in prices.

(On Wharf.)

Bayos, Cal., per ctl.	$3.50 @ 3.75
Blackeyes	5.50 @ 5.65
Cranberry Beans	3.50 @ 4.00
Horse Beans	2.25 @ 2.75
Small Whites	4.00 @ 4.15
Large Whites	3.75 @ 3.90
Pink	3.15 @ 3.40
Limas	4.00 @ 4.15
Red Kidney	4.90 @ 5.00
Mexican Reds	4.90 @ 5.00

SEEDS.

(Wholesale prices, San Francisco.)

Alfalfa	17½ @ 18½c
Brown Mustard, per lb	Nominal
Canary	10 @ 12½c
Hemp	3 @ 3½c
Millet	2½ @ 3 c
Timothy	7½ @ 8 c

HAY.

In spite of rather large arrivals the hay market continues in pretty good shape. What changes in prices are to be noted are in the way of advances. Not much new hay has been received in the San Francisco market but some transactions are reported in the country. The inquiry for hay for export continues. This has contributed largely to the strength of the market and has reduced stocks of old hay materially. Alfalfa hay is beginning to arrive rather more freely; and though the demand does not appear to be brisk, the prices realized are somewhat better than those of a week ago. In general prices show very little change.

track, San Francisco.)

No. 1 Wheat, per ton.	$10.50 @ 12.00
do. No. 2	8.00 @ 9.00
Barley	8.00 @ 10.00
Tame Oats	7.50 @ 11.50
Wild Oats	6.00 @ 8.00
Alfalfa	7.00 @ 10.00
Stock Hay	5.00 @ 5.50
Straw, per bale	.40 @ .45

FEEDSTUFFS.

There has been more activity this week, and a number of price alterations are reported. In sympathy with the firmer market for the whole grain, the price of rolled barley has advanced a dollar a ton. Oil cake meal, which has been out of the market, is again quoted, the price being from $38 to $40. Cocoanut cake has dropped a dollar and cracked corn has advanced to the same extent.

(Wholesale prices per ton, carload lots, San Francisco.)

Alfalfa Meal, ton	$14.00 @ 15.00
Alfalfa Molasses Meal per ton	18.00 @ 19.00
Bran, per ton	29.00 @ 30.00
Oilcake Meal	38.00 @ 40.00
Cocoanut Cake or Meal	24.00 @ 29.00
Cracked Corn	41.00 @ 42.00
Middlings	34.00 @ 36.00
Rolled Barley	25.00 @ 26.00
Rolled Oats	33.00 @ 34.00

VEGETABLES.

At this season the market changes very rapidly with the coming of new stocks. The asparagus season is now drawing to a close and good stock is getting scarce and is held at higher prices. Tomatoes are in abundant supply and prices are more or less demoralized. Merced tomatoes are now quoted at little more than half the prices given a week ago. Los Angeles lugs are no longer quoted; but River lugs are placed at from 75 cents to $1. Eggplant is now more plentiful and is now quoted by the box. Green corn is plentiful and is offering at lower prices. Very little okra is to be had. String beans and celery are lower for the poorer grades but unchanged for the best.

(Wholesale prices, San Francisco.)

String Beans, lb	1½ @ 4 c
Lima Beans	5 @ 8 c
Celery, So., doz.	.50 @ 75 c
Lettuce, crate	.50 @ 1.00
Asparagus, box	1.00 @ 1.50
Peas, sack	1.00 @ 2.00
Peppers, bell, lb	4 @ 6 c
Tomatoes, crate, Merced	.30 @ 40 c
River lugs	.75 @ 1.00
Rhubarb, box	.50 @ 65c
Cucumbers, lug	75 @ 1.00
Eggplant, lb	50 @ 75 c
Summer Squash, lug	.20 @ 50c
Green Corn, sack	75 @ 1.25
Okra, crate	.75 @ 1.25

POTATOES AND ONIONS.

The potato market is weak this week, with very few encouraging features as to better prices. Oklahoma potatoes are now being shipped westward, crowding California stock in the Southwest. In this market supplies are ample. The onion market has also weakened during the week, with red onions selling as low as 50 cents per sack. Garlic is unchanged.

New River Potatoes, ctl.	.50 @ 90c
Onions, yellow, sk	.60 @ 70c
Red, sk	.50 @ 60c
Bermudas, crate	.85 @ 90c
Garlic, per lb. new	5 @ 6c

POULTRY.

Receipts of California stock are a little more plentiful this week and the receipts of eastern are keeping up right along. The demand, however, is also mending a little and prices are kept at just about the old level. Broilers are a little firmer, as is young stock generally.

(Wholesale Prices, San Francisco)

Live Turkeys, lb	.15 @ 17 c
Broilers	.21 @ 23 c
Fryers	.21 @ 23 c
Hens, extra, per lb	.16 @ 17 c
Small Hens, per lb	.13 @ 14 c
Smooth Young Roosters, per lb.	.24 @ 27 c
Squabs, per doz	$2.00 @ 3.50
Geese, per pair	2.00 @ 2.50
Ducks, young, lb	.13 @ 14 c
Old	12 @ 13 c
Belgian Hares	7 @ 8 c

BUTTER.

Although arrivals have been fairly heavy during the week, the sales have kept the market fairly clean, and the price has moved up half a cent. The increased poulation due to the Exposition is believed to be materially affecting the consumptive demand here.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	26½	26½	27	27	27	27
Prime Firsts	25½	25½	25½	25½	25½	25½

EGGS.

The egg market is up half a cent for extras and a cent for selected pullets, with a generally firm tone maintained throughout the week. The demand has been a little more active during the last few days.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	25	25	25	25	25½	25½
Firsts	21½	21½	21½	21½	21½	21½
Sel. Pul.	23	23	23	23½	24	24

CHEESE.

Fancy flats, which last week registered an advance after a long period of steadiness, have again gone up half a cent.

S. F. Dairy Exchange prices on flats and Y. A.'S)

Y. A.'s, fancy	12½c
Fancy Calif. flats, per lb	12 c
Monterey Cheese	10@12c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	24½	24½	24	24	25	26
Cal. Cheese	12	12	12	12	12	12

DECIDUOUS FRUITS.

The season for Loganberries is now about over. The black variety is no longer quoted; and the red is very scarce, being quoted at from $5 to $6. Currants are also practically out of the market. Gravenstein apples are more plentiful and are quoted at $1.25 to $1.75 for four-tier boxes, with about 35c. off for 4½ tier. The market is pretty well overloaded with cantaloupes, which are selling at a big reduction from the prices named a few days ago. Watermelons are also coming in freely. They are down a little for the best goods; but the market is in pretty fair shape nevertheless. Large quantities of plums have arrived; and the price is dropping right along. Seedless grapes are in good supply; but the demand is also good and the market is well maintained.

Loganberries, red	5.00 @ 6.00
Strawberries, chest	3.00 @ 5.00
Raspberries, chest	4.50 @ 7.00
Blackberries, chest	3.00 @ 4.00
Plums, crate	35 @ 65 c
Figs, box	1.25 @ 1.50
Apricots, crate	.50 @ 60 c
Lug	.65 @ 85 c
Pears, Bartlett, box	1.00 @ 1.75
Other varieties	.75 @ 1.25
Peaches, crate	.55 @ 80 c
Small box	.40 @ 55 c
Lugs	75 @ 1.00
Apples, new Red Astrachan, box	$1.00 @ 1.35
Apples, Gravenstein	1.25 @ 1.75
Cantaloupes, crate	50 @ 1.25
Watermelons, lb	½ @ 1¼ c
Grapes, crate, Thompson Seedless	1.25 @ 1.75
Malaga	1.50 @ 1.75

DRIED FRUITS.

A lot of interest is being given to the dried fruit situation, but nobody seems able to guess as to the future. It looks as though the poor demand for fruits for canning is certain to throw a lot of fruit into the hands of the dryers. The general talk is or low prices all along the line. A large lot of new crop dried peaches was bought by a local packer this week at 2½ cents, though probably not much is changing hands at that figure. Apricots are offering freely here, most of the transactions being at about 6 cents. Some sales at 8 cents are reported, but the general orchard run appears to be going at 6 cents. The New York Journal of Commerce says of the eastern market:

"Practically no dealing is being done by the trade here on the basis of the advanced prices which have been announced by the packers for September-October shipments of prunes from the Coast. This market is said to be well protected for supplies to satisfy its early fall needs. Contracts have already been confirmed and the factors feel that they are in a position to sit back and wait for developments in the controversy which has arisen between the packers and the growers. Jobbers are stocked with sufficient supplies to meet demands until the middle of October and every one here appears

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to be confident that by that time something definite in the situation will have occurred.

"It is freely predicted here that the conditions which now exist in the future prune market are only temporary. The season is only beginning and the growers have not yet begun to dry their crops. The packers having sold short without covering are approaching the time when they will have to secure supplies to meet their contracts. In order to make up any possible loss they may sustain they have advanced the prices on all sizes for Santa Clara prunes for September-October shipment. On the other hand, the operators believe that when the crop has been dried and is ready for the market the growers will be forced by the pinch for ready money to accept the prices which are offered by the packers. It is thought that it will be an impossibility for the growers to hold on to their crop once it is ready to ship, as they must be depending on their sales for money for fall needs. As far as this market is concerned the present situation is attracting only a minor attention. Being safely intrenched against all demands until the middle of October they are devoting their attention to the spot market, which is very strong now, with steady buying.

"Europe is said to have been a heavy buyer for future prunes. Most of the sales have already been confirmed at the prices which prevailed in late May and early June, and if such is the case this trading should not have much effect on the existing prices.

"A very strong feeling still persists in prunes on the New York spot market. Buying is steady, and prices are firm, with a slightly upward tendency. The European business which was such a prominent feature last week appears to have diminished to some extent during the first part of this week. One reason which has been assigned for this falling off in sales to the English market is the lack of available supplies. Inquiries are still coming in, however, and shipments are said to be prepared for the latter part of this month."

(Prices to Growers.)

1915 crop.

Apricots, per lb	5½ @7 c
Figs, white	3¼ @3½c
Black	2¼ @3 c
Calimyrna	4½ @5 c
Prunes	2½ @3 c
Peaches	2½ @3 c
Pears	5 @8 c
Raisins (in sweatbox):	
Loose Muscatels	4 @4½c
Seedless Sultanas	5 @6½c

(San Jose prices to Growers, 1915 crop.)

Apricots, per lb	5½ @7 c
Prunes, subject to dist.	3¼ @3⅜c
Peaches	2½ @3 c
Pears	5 @8 c

CITRUS FRUITS.

The hot weather in the east has helped the lemon situation, and while prices on citrus auctions are still too low, it is hoped that the balance of the season will show paying bids. On the New York auction, Monday, July 19th, valencia oranges averaged from $2.85 to $4.50 per box; navels $1.45 to $2.05; lemons $1.25 to $2.55. The same day at Cleveland, lemons averaged from $1.70 to $3 per box. Shipments of citrus fruits from southern California are averaging about 50 cars daily. Total shipments to July 18th this season were of oranges 29,783 and of lemons 5,010 boxes.

Citrus fruits have not attracted a great deal of attention this week, owing probably to the increasing variety of deciduous fruits offering. Prices are as before.

(Wholesale Prices, San Francisco.)

Oranges, Valencias, bx.	$2.75@3.50
Grapefruit, seedless, box	2.00@2.25
Fancy	2.50@3.00
Lemons, box	1.50@3.50

NUTS.

The market was given a little shock when an inquiry came in for a car of almonds; but as there have been no stocks in first hands for a long time, this was of little interest to the grower. Everybody is now waiting for the 1915 crops.

(Prices f. o. b. San Francisco.)

Almonds, 1915 crop:

Nonpareil	17 c
IXL	14½c
Ne Plus Ultra	14 c
Drakes	12½ @13 c
Languedocs	11 @11½c

Walnuts:

Jumbo, lb	19 c
No. 1 Softshell	16½c
Budded	18 c
Ungraded	8 @10 c
Manchurian	6 @11 c

HONEY.

A lot of comb honey is now coming into the market more, it is said, than was the case last year, and a considerable portion is of the better grades. Water white comb is down a cent from the top quotation; and water white etxracted is down half a cent, though no great quantity of the latter has yet come in and the trade anticipates that it may advance again soon. The light amber grades of both comb and extracted are well maintained. There is no call whatever for dark.

Water White, comb	10 @14 c
Light Amber	8 @10 c
Water White, extracted	5½ @ 6½c
Light Amber	3½ @ 4½c
Dark	2 @ 3 c

LIVE STOCK.

Light and medium calves have declined, as have all grades of hogs. Dressed meats show no changes, and the market is reported firm.

(Prices at San Francisco.)

Steers, No. 1	6¼ @ 6½c
No. 2	6 @ 6¼c
Cows and Heifers, No. 1	5½ @ 5¾c
No. 2	5¼ @ 5½c
Bulls and stags	4 @ 5 c
Calves: Light	8 @8½c
Medium	7½c
Heavy	6 @ 7 c
Hogs: Grain-fed:	
200 to 300 lbs.	7 c
100 to 200 lbs.	7½c
Prime Wethers	6¼ @6½c
Ewes	5½ @6 c
Suckling lambs	8 @ 8½c

DRESSED MEATS.

Steers	10½ @11 c
Veals, large	12½ @13 c
Small	14 @15 c
Prime Wethers	12 @13 c
Ewes	11½ @12 c
Suckling lambs	14½ @15 c
Hogs	12 @12½c

WOOL.

California wools are now pretty well sold up, and buyers are giving their attention more to the Rocky Mountain states. Prices show no change.

Humboldt & Mendocino	18@27c
Wool, Sacramento Valley, lb	18@22c
Southern, year's staple	15@18c
Six months	14@16c

HORSES.

The market continues quiet here, owing partly to the season and partly to the fact that buyers are giving their attention to the country.

(Approximate values at San Francisco, based on auction sales.)

Heavy drafters, 1700 lbs. and up	$275@300
Light drafters, 1550 to 1650 lbs.	175@200
Chunks 1350 to 1500 lbs	150@175
Wagon horses, 1050 to 1350 lbs.	100@140
Green Mountain range horses, 950 to 1200 lbs	50@ 90
Farm workers	60@ 75

MULES.

1200 lbs and up	$225@250
1100 lbs.	200@225
1000 lbs.	150@175
900 lbs.	125@150

HIDES.

The hide market continues very firm with all desirable offerings selling rapidly. No changes in prices are noted.

Heavy Steers, over 56 lbs	16 @16½c
Medium	16 @16½c
Light Steers, under 48 lbs	16 c
H'vy Cows, over 50 lbs.	16 @16½c
Light Cows, 30 to 50 lbs	16 @16½c
Kip	16 @17 c
Veal	17½c
Calf	18 c
Dry Hides	27 @28 c
Dry Kip, 10 to 15	26 @27 c
Dry Veal, 5 to 10	31 c
Dry Calf, 7 down	31 c
Horse Hides—	
Salt: Large	$3.00
Medium	2.50
Small	1.00

When a Certain San Francisco Shipper

announces to the trade that he will cut the Exchange's net or lowest price on new crop almonds, regardless of what that price may be, it serves as an object lesson to every grower who has been indifferent to the necessity of co-operative marketing.

CALIFORNIA ALMOND GROWERS' EXCHANGE,

311 California Street, San Francisco, Cal.

HOPS.

Hops are quoted two cents higher in Portland and sales to San Francisco buyers are reported in Mendocino county at 12 cents for 1915 hops, but locally there has been no change.

1915 crop, lb 8½ @11 c

SPECIAL DECIDUOUS MARKET REPORTS.

By J. L. Nagle.

Sacramento, Cal., July 19, 1915.

A general lowering of prices has prevailed in nearly all markets during the past week, with little or no demand for any variety except Blue Plums and Bartlett Pears.

Shipments of peaches from eastern fruit districts are increasing and Texas and Georgia are now averaging from 100 to 150 cars of peaches a day.

Furthermore, the Eastern weather has not been favorable to the consumption of fruits, and with the supply from all districts practically in excess of the demand, fruit as a whole has sold at prices lower than the cost of production.

An unfortunate situation is this, that California Elbertas being two weeks late will come into competition with the height of the Eastern fruit season and we anticipate still lower prices than at present prevail. Our only salvation lies in the fact that probably the quality of the eastern fruits will affect the demand, and as California Elbertas are of exceptional quality this season, they may be given the preference. Elbertas from the lower San Joaquin Valley are now moving, but the Placer county Elbertas will not be at their height until the first of August.

Reports from New York indicate that the shipments of Almeria grapes will be at least 50 per cent lighter than last season and as mildew has developed in the Tokay district of the San Joaquin Valley, which will unquestionably reduce the California grape tonnage, we look for a ready market for both Malagas and Tokays. Malagas from the Imperial and Coachella valleys are now moving and the quality is better than for several years. The first few cars that have arrived in the East have found a ready market at satisfactory prices. What few Thompson Seedless have been sold were undersized and not up to the sugar test, but, being practically the first grapes on the market, sold well.

Unless something unforeseen happens, Michigan will have a full crop of peaches. This condition prevails also in Connecticut but it is reported that Michigan and New York will both be light on grapes and quite a tonnage has already been sold to the juice factories.

The following prices have ruled for the week:

New York—Bartlett Pears averaged $2.73; Comet Pears, H. B., $1.25; Wilder Pears, H. B., $1.50; Tragedy Plums, $1.12; Burbank Plums, 92c; Climax Plums, 70c; Wickson Plums, $1.39; Santa Rosa Plums, 94c; Hiniori Plums, $1.15; Oregon Cherries, 80c; Republican Cherries, 98c; Royal Anne Cherries, $1.07; St. John Peaches, 50c; Triumph Peaches, 50c; Hale Peaches, 50c.

Chicago — Climax Plums, 78c; Santa Rosa Plums, 93c; Tragedy Plums, $1.25; Burbank Plums, 78c; Boton Plums, 65c; Ogon Plums, 75c; Wickson Plums, $1.04; Oregon Cherries, 95c; Bartlett Pears, $2.30; Malaga Grapes, $3.37½; Hale Peaches, 40c: Triumph Peaches, 45c; St. John Peaches, 63c.

Minneapolis — Triumph Peaches, 70c; Hale Peaches, 55c; Climax Plums, 75c; Burbank Plums, 92c; Santa Rosa Plums, $1.15; Tragedy Plums, $1.55; Wickson Plums, 75c; Bartlett Pears, $2.77.

Total shipments to date, 2838; total shipments same date 1914, 3511 cars.

Publisher's Dept.

"Poultry Diseases and Their Treatment," by E. J. Wortley, is a new book just received. The aim of the author has been, in a concise way, to tell the poultry-raiser how to determine various diseases and take the necesary precautionary steps in preventing the introduction and spread of contagion. The book contains 125 pages, is cloth bound and sells for 75 cents per copy. Orange Judd Co., publishers, 315 Fourth Ave., New York.

Dr. J. E. Coit of the University of California has prepared an excellent manual on "Citrus Fruits: an account of the Citrus Fruit Industry with special reference to California requirements and practices and similar conditions"—just published by the MacMillan Company. Dr. Coit has made a close study of the growing of citrus fruits in this state ever since he came to the staff of the State University nearly a decade ago. His book is an able and orderly statement of the latest troubles in citrus culture which have been demonstrated by practical experience and by scientific research; in both these lines he has done creditable original work. The book treats pointedly and concretely of the history of California citrus growing, the climatic requirements of these fruits, their botany and growth habits, the desirable varieties and their propagation, planting, pruning, cultivation, fertilization and irrigation. It has a fine review of frost effects and their prevention; California methods of picking, packing and marketing and a very careful and explicit review of pests and diseases and the latest phases of the warfare against them. A very full bibliography of the publications by other writers on citrus fruits is also given. The book is excellently adapted for use in high schools and colleges and should also be in the hands of all practical growers. The volume has 520 pages, 12mo, and is very fully and excellently illustrated. Price $2 per copy.

This is the dull season for advertising with farm journals everywhere, and the Rural Press is no exception. However, those of our patrons who continue their announcements through the summer season will without doubt get their money back in increased sales. While farmers may not answer ads as freely during the busy season as in the fall and winter, yet they do read, and when they market their crops they will naturally buy from the firm whose product is familiar to them.

On account of heavy shipments of livestock from Humboldt county on the N. W. P. R. R., the company has set aside Thursday as stock shipping day; and only on that day can shipments of stock be made.

Those who attend the meeting of the American Poultry Association can not only take part in that Convention, but can exhibit at and attend the Panama-Pacific Poultry Show and can see the world's greatest International Expositon.



Twelve Foot Corn in a Desert

Hundreds of farmers are growing splendid crops where hardly a blade of grass grew before. *You* also can secure richer crops and increase your profits correspondingly.

G-E ELECTRIC MOTORS FOR RANCH AND FARM

will run the season through without attention.

A G-E Motor will do the work of six men at less cost than the wages of one. Its first cost is less than one-third that of a good horse and it will do more than eight times the work in a day, owing to its continuous operation.

Read the results your neighbors are getting.
Ask for irrigation booklet B-3276.

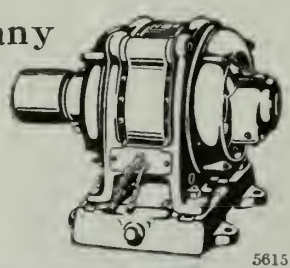
General Electric Company

Los Angeles Office:
124 West 4th Street

San Francisco Office:
Rialto Building

The General Electric Company will gladly answer all questions relating to the use of electric power for ranch and market garden irrigation.

Address nearest office.



5615

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ELECTRIC APPLIANCES in the household not only add to the convenience of all members of the family, but they are economical and time-savers. **ELECTRIC APPLIANCES** include **CHAFING DISHES, COFFEE PERCOLATORS, VACUUM CLEANERS, ELECTRIC IRONS** and every other appliance that is needed in the modern home, not forgetting **ELECTRIC FANS.**

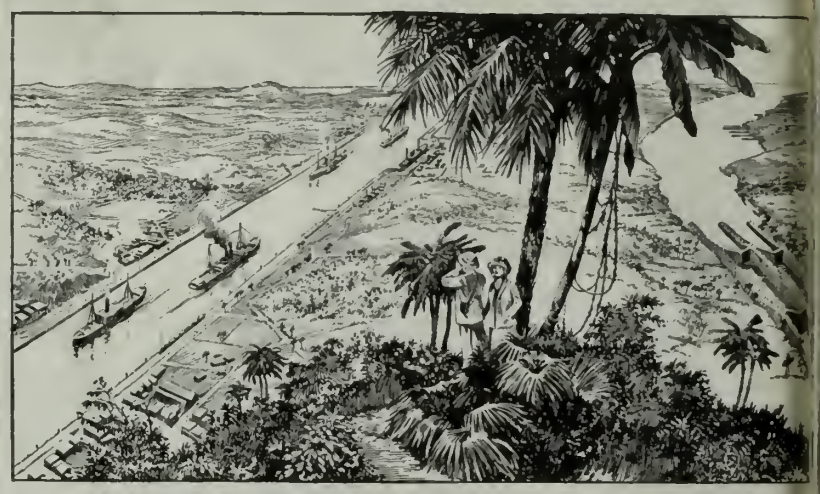
We carry these appliances in many of our branch offices, and will be glad to have you call and inspect them. Where we do not carry them we will be just as glad to give you our expert advice.

"PACIFIC SERVICE" is always "At Your Service."

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Branches in all principal cities and towns of North-Central California.



The Price of Progress

THE Panama Canal stands as one of the most marvelous achievements of the age. Into its construction went not only the highest engineering skill, but the best business brains of the nation, backed by hundreds of millions of dollars.

Suppose conditions not to be foreseen made it necessary to replace the present canal with a new and larger waterway of the sea-level type, to be built in the next ten years.

Also suppose that this new canal would be the means of a great saving in time and money to the canal-using public, because of the rapid progress in canal engineering.

This sounds improbable; yet it illustrates exactly what has happened in the development of the telephone, and what will certainly happen again.

Increasing demands upon the telephone system, calling for more extended and better service, force removal of every part of the pla not equal to these demands. Switch boards, cables, wires and the tel phone instrument itself were chang time and again, as fast as the a vancing art of the telephone cou improve them.

It was practical to do all th because it greatly increased t capacity of the plant, reduced ser ice rates and added subscribers t the hundred thousand.

In ten years, the telephone pla of the Bell System has been rebu and renewed, piece by piece, at a expense exceeding the cost of t Canal.

Thus the Bell System is kept the highest point of efficiency, alwa apace with the telephone requir ments of the public. And t usefulness of the telephone has be extended to all the people.

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One Policy *One System* *Universal Servi*

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The safe way is to get advice from pump specialists like ourselves. As manufacturers we have solved hundreds of pumping problems—and our accumulated experience is at your command. Our advice may save you both money and trouble. We manufacture and sell

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OFFICE—250 North Point Street, San Francisco, Cal.—WORKS

Vol. XC—No. 5 Forty-Fifth Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO SATURDAY, JULY 31, 1915 LOS ANGELES

California State Library

Cover Crops for Permanent Fertility.

There is a conviction among California Fruit Growers that abundance of humus in the soil is an important factor in crop production—that cover crops must furnish the major portion of said humus.

[Written for Pacific Rural Press by William M. Bristol, Highland.]

There was something akin to a riot a few years ago when a gentleman connected with the U. S. Dept. of Agr. made the statement that, in the history of the world, no region dependent upon irrigation had been permanently prosperous. "Important, if true," was the comment. Granting the assertion to be at least partially true, the Californian of today finds himself wondering if the unfortunate ancient irrigationists knew anything about cover crops and humus.

Although all orchardists are apparently agreed upon the value of cover crops, there is yet some difference of opinion concerning varieties and methods of handling.

Many Cover Crops Tried.—Since the cover crop idea become popular in California, there has been an interesting procession of candidates for the office of soil rejuvenator. The whilom American partiality for foreign goods extended even into the rural field, and the Canadian pea was the first plant to find favor among the fruit growers. Close on its heels came the common vetch; and because of its hardiness, it soon superseded the pea. Along with these two distinguished legumes came a whole troop of modest relatives, until it seemed that every plant whose seed was a bean or a pea was a candidate for the position. Lupines in assortment, fenugreek, beans of the horse variety, peas of the cow variety, and other aspirants joined the ranks until the orchardists were reminded of those lines from Pinafore, which run—

"His sisters and his cousins,
Whom he reckons by the dozens—
His sisters and his cousins and his aunts."

Recently buckwheat, which certainly is not a legume, has been extensively tried as a summer cover crop. It is not recorded that anyone has planted maple trees amid the buckwheat.

From parts unknown, there has also come an unbidden and unwelcome intruder in the form of a small nettle. Like the Japanese in America it flourishes in either sunshine or shadow; and bases its right to be here on the fact that it can thrive where the other candidates find the sledding difficult.

Sweet Clovers for Summer and Winter.—Just now the Melilotus—sweet clovers—are marching well to the fore in popular favor, two varieties having entered the lists. Of these two, Melilotus indica, the yellow-flowered, winter-growing annual, is the better known. At the Riverside citrus experiment station, until distanced by purple vetch, it gave the best results, as indicated by the crops which followed it, of all cover crop plants so far tried. It is not generally diffused in California, because, perhaps, of the fact that it blooms rather late and consequently, when it has appeared in the orchards, it has been plowed under before ripening its seed. It is not relished by stock and, when eaten, it imparts a flavor to dairy products that is not relished by man.

Melilotus alba, the white flowered, summer-growing biennial, is not a stranger in California, for it has cropped out widely in alfalfa fields, but it comes now with flattering testimonials, both as a summer cover crop and as a hay and feed plant. Certain it is that in two small orchard plots in Highland last summer it made a luxuriant growth, sending down roots so long and strong that, although not started until May, they could not be pulled by hand in November.





Upper.—Scene in an 8-year orange orchard. The man, who is over 6 feet in height, is meditating on the magnitude of his crop of Melilotus indica and wild oats. No, he did not sow the wild oats, neither will he reap them, but will plow them under along with the clover—and they shall be counted to him for humus.

Lower—Melilotus alba in 15-year-old orchard. The stalk the two men are holding between them reaches to the top of the picture and is taller than both of them. View made in June, 13 months after planting. At this time, July 15, owner has decided to plow it under but may first have to cut it into stove lengths.

With the feeling that the annual cover crops, plowed under before maturity, do not accomplish what is desired, there has been some experimenting with alfalfa in the effort to get deep and effective perforation of the plowsole. Although not systematic and exhaustive, these experiments have promised well, the greatest objection to alfalfa being the difficulty of plowing it under when desired; for it is conceded that, whatever the cover crop and whether it be allowed to grow six months or two years, the end sought is only gained by its ultimate destruction and decomposition. Experiments with Melilotus alba so far made indicate that it will make a larger growth the first year than alfalfa; and as it dies a natural death the second fall, it is plain that the grub-hoe need not be used after the plow, as is the case with alfalfa.

Sweet Clover Subsoiler.—Not many years ago it seemed that a subsoiling implement, drawn by several horses or by a tractor, might come into general use in overcoming plowsole in the orchards. The results gained by this method, however, are not commensurate with its cost; and there is a widespread feeling that some deep-rooting plant, performing the double service of soil-perforator and humus maker, must prove preferable; especially as the latter works, no mechanical injury to the tree roots. At this moment, when many orchardists were seriously contemplating subsoiling by means of alfalfa, melilotus alba comes on

(Continued on page 103.)

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R. E. HODGES - - Assistant Editor
J. C. LOOMIS - - Assistant Editor

California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at p. m., July 27, 1915.

STATIONS	Rainfall Data: Week Past	To Date Seasonal	to Date Normal	Temperature Data: Max'm	Min'm
Eureka	0	.20	.11	62	52
Red Bluff	0	0	0	108	64
Sacramento	0	0	0	102	56
San Francisco	0	.01	.01	72	52
San Jose	0	0	0	92	54
Fresno	0	0	0	108	62
Independence	0	0	0	98	
San Luis Obispo	0	.01	.01	86	52
Los Angeles	0	0	0	88	62
San Diego	0	0	0	82	62

THE WEEK

More than nine millions of people have twirled the turnstiles of the Panama-Pacific Exposition and the better half of the time for their coming still remains. Visitors from a distance are now coming in masses, as it is the outing season east of the Rockies, and August in San Francisco will give them bracing coolness which they cannot find in their owu areas—not even on eastern mountain tops. When these eastern multitudes shall have been refreshed and edified they will return to their homes the better fitted for the duties of their reputed strenuous lives. In the autumn, when, as Californians know, open-air life in San Francisco is most delicious and entrancing, the inhabitants of our own and adjacent states will largely take possession of the Exposition. Even those who have already sighted it will be likely to return for longer sojourns in the bay region. The harvests will then have been gathered and the various other activities connected therewith, which engage all classes of our population, will be lessened. It will be the westerners' delight to do the fair in the autumn and gain from it recreation, instruction and patriotic incentive and confidence. For all the great world-seers agree that the affair is most notable and therefore worth paying heed to. Last week ex-President Roosevelt was the star-observer, and, notwithstanding his famous reticence about saying what he thinks, he could not restrain these very forceful words: "California has emphatically made good. She has built, without a dollar of governmental assistance, an exposition of which every American citizen should be proud. Though my expectations were high the reality has surpassed them. Not only is this exposition worth seeing, but it is worth making a saerifice to see. Every American citizen who can possibly do so should visit the exposition, and the fathers and mothers should bring the children. They will find much that it will be of the utmost pleasure and profit to see. I have seen many expositions, but none both so interesting and so beautiful."

The autumn will also be a most delightful season to visit Southern California and the San Diego Exposition should also be thronged. The occasions at San Francisco and San Diego invite all who can to turn a circle of the State and thus attain more adequate idea of the greatness and variety of California, which one who tarries in a single part of it can never possess.

We are Rattled on Spots.

We have heard that it is a good time to stop playing when the spots in your hand begin to run together and become hard to count, but we desire to be exactly fair with the proposition of sunspots as weather prophets and have to keep at them, although we must acknowledge we are becoming a little confused. For there came from St. Louis by telegraph last week this announcement: "At the Christian Brothers College on Sunday one hundred and fifty spots were seen by Brother Hubert, thirty-three more than were visible on Friday and Saturday. Records kept at the college and covering several months indicate that every unusual weather disturbance has been followed by great sun-spot activity and that a waning of the sunspots has been followed by clear weather." Our confusion comes from the declaration in the last sentence that, in the first part of it, the weather is said to be antecedent to the spots and, therefore, possibly the cause of them; and, in the latter part, the spots are said to be antecedent to the weather, and therefore, possibly, the cause of it. The only philosophy we can think of for comfort is that "it is a poor rule which does not work both ways" and the result of that would be either that the spots and the weather mutually cause each other or that it is sometimes one, sometimes t'other.

Nor do we get more definite impression from other preachers on the subject, so far. Professor Nicholson is credited with saying to his students at the Summer Session of the University of California: "The spots have none of the miraculous power attributed to them by popular repute. The only known influence that the sun-spots exert is connected with electrical disturbances. If a graph were made of the maximum periods of sun-spots and the maximum severity of electrical storms, the two would coincide." We do not know what the Professor intends to indicate as "miraculous power" and therefore cannot tell what potency he desires to deny them, but the second part of his utterance seems to endorse the spots as meteorological factors—providing storms are electrical phenomena, and that we cannot either affirm or deny. We are confused: we may have to "take water" on spots and that is just what is claimed for them.

What is Farming?

The neo-Platonists, who are very busy nowadays putting forth philosophies of farming, surely threaten us with a brain-storm. They all seem to be trying to develop the idea that farming is not like other vocations of men: it is a sort of a shell in which the farmer should curl up out of contact with other callings of men, leaving only a small aperture through which beneficent people could pour into him such physical and mental food as they think he ought to have, to the end that he grow big enough to fill the shell and no more. It is a crazy notion and we have had to exclaim against it before. After we had sat two or three days blinking at the corruscations of the Dublin school of idealists in 1913 we had to protest somewhat vehemently against their main contention: that "farming was not a business so much as a mode of life" and therefore farmers ought to be belabored until they could see that they ought to cherish views of life which did not appertain to other people. This appeals to us as sublimated nonsense. For his mode of life the farmer should have the same things which make other men decent and efficient, viz.: a clean bed and bathtub; plenty of good sleep and good food; a chance to do good thinking; a good readiug-light and the Pacific Rural Press always within reach from his rest-chair. He needs all these things to make him good in his business, and the more energetically he pursues this business, the more fully he applies what common human experience demonstrates to be good business principles, and the more he pushes his business up against the business of other people and insists upon doing it himself when other people will not handle it fairly for him, the nearer he will come to functioning as a farmer true to his high calling.

Isolation of Farmers.

These kindly people who honestly desire to help the farmer by giving him a better chance to grub dirt, away from the madding crowd of merchants, professional men and politicians, do not seem to see that they would intensify the disadvantage under which he has always labored, to wit: isolation. And the saddest thing about it is that they really seem to be doing it unconsciously and unintentionally and with the enthusiasm of philanthropists. They, of course, do not realize that the more they make the farmer dependent upon others, from the government down to the country store-keeper, the more they handicap him as a successful and efficient producer, except the few who get between him and them, for their own purposes. The most insidious way to do this is to convince all the people, including farmers themselves, that farming is a mode of life apart from the modes and methods of other people's lives, and therefore he should not expect to enter into the views and activities by which other citizens advance their own interests and serve their countries. It is perhaps not surprising that such a conception of the farmer's civic relation should be advocated in Europe, where most farmers have so recently emerged from different degrees of serfdom, but the view is certainly untrue and abhorrent when applied to the American farmer. The American farmer has all the civic endowment, rights, duties and opportunities which those in any other vocations have; and his more abundant future is to be attained, not by isolation and the assertion of differences, but by competitive association, in which all citizens should strive for individual and national efficiency and prosperity. For both these desirable ends farmers should come out and go forward in public affairs, in commercial affairs and in social affairs more intelligently and energetically than they have hitherto—and they should train their young people, not for some indefinite and undefinable mode of life, which the idealists are proposing as "agricultural," but for the free, open, public life of American citizenship.

What They Say Farming Is.

We have to admit that we are tilting against windmills, for we cannot understand just what those who would unseat the farmer from the saddle of common American citizenship really mean by the fine phrases they are using. We will not say that they do not themselves know what they mean, but we confidently suspect it. Take, for example, this profound piece of analysis which we find in the California Outlook:

"Amid all the attributes of God that men dispute about, there is but one that all philosophies agree upon, that of Creator. Man, made in the image of God, finds that in himself his nearest resemblance to deity lies in his creative powers. To a few there is given the divine spark of invention, the creative imagination, the faculty of grasping the fruitful need, the force of character to make mind and opportunity co-operate to obtain a finished product. The farmer is the one man in whom all these qualities are demanded daily. So of course farming is not merely a science, though science helps. It is not alone an art, though the perfection of its art saves labor and adorns the result. It is a point of view, and one that should not be missed by any one who wishes to include in his career the abundance of life."

We had always supposed that man could reach nearest semblance to God by being just and good. If all philosophics agree that man most resembles God by his creative ability, they must be off their base, for man's creative power has wrought some of the most devilish things the world has ever experienced—the present war in Europe, for instance. But to follow that, might bring us up against the question of why God made the devil. This we positively refuses to discuss: we don't know a thing about it.

According to our notion of it, the writer of the lines we quote above is right in saying that farming is neither wholly a science nor an art, but includes both. Why then did he not continue along the same line and say that farming is not a point of view but needs to include one, and the reason why the farmer does not count for more in the community is because he has no clear idea of his rights and relations, and has never valiantly contended for them among other callings of men. A farmer may have a point of view sharp as a needle, but so long as he keeps it inside his own head or heart, it does him no more good than a stomach-ache.

The Use of a Point of View.

There is, of course, an "agricultural point of view," and it is important to hold and enforce it whenever conditions demand, but the point of view is no more the whole of farming than the lawyer's point of view, as to his fee, includes the squeeze of the rope on the murderer's neck nor than the doctor's point of view as to his bill includes the exultation of the patient who eats his first square meal without an appendix. Points of view are essential to farming as to lawyering, doctoring, store-keeping, banking and cobbling, but a point of view is of no account, except perhaps in poetizing, unless you can get out and drive it into people. Even then the point of view is not the vocation of a man; it is only to guide him in his doings with men. Therefore, though his point of view, as to what he should have and what he should do, is an indispensable element in the equipment of a farmer, his attitude toward the enforcement of it, upon public attention and upon individual acceptance and respect, is exactly the same as capable people in other callings should have, and generally do have in greater measure than food-producers do. It is, then, the farmer's attitude toward his point of view which is the real thing in this contention. Unless he gets out into the forum of citizenship and enforces his point of view more systematically and vigorously than he has in the past, he may expect all kinds of doctrinaires to keep on prescribing rest-cures for his feeble-mindedness.

Clean Speed Contests.

It is quite possible that the Panama-Pacific Exposition racing contests may leave us a legacy of clean racing which will be a joy to sportsmanship and an advantage to the horse breeding of the State. California has a rich history in speed-breeding and training, and her natural adaptations to the breeding and development are known to all horsemen. Unfortunately racing fell into an abomination of destructive gambling and many coarser vices which the people could not endure and valiantly crushed out. Such things cannot and should not ever be tolerated again, and the people will have no patience with them. But racing on high moral and sportsmanlike grounds and decent environment is quite a different thing of course, and is commendable as an adjunct of breeding and as a clean pastime. It is currently reported that about a score of well-known amateur turfmen intend to organize for the right kind of speed contests, and if they will keep themselves clear from the old race-track promoters and retainers and give the public something good and clean, as may be possible under existing laws against race-track vices, it will be an effort toward the development of one of the State's resources and interests which fell into very bad company, and has properly suffered for it. We shall watch the undertaking with much interest.

Queries and Replies.

Querists must give name and address.

Root-Knot.

To the Editor: I have a fine large satsuma plum tree five years old which is beginning to wither. On investigation I find the roots are all gnarled up and seem to be growing solid. Is there a remedy and what is it, and can the trouble be prevented from spreading to other trees?—G. B. McL., Los Angeles.

We take it to be a bad case of root-knot. Dig up and burn all the roots you can get in the hole where the tree stood, using some dry fuel to bake the ground well. Next winter dig out a large hole, fill with new earth and plant a new tree. It is too far gone for curative treatment.

Walnut Blight and Aphis.

To the Editor: What has caused the black spots on the walnuts I send, and can anything be done for preventing it in the future? There are also some green lice on the back of the leaves. Is there any danger that they may increase to any great extent this summer?—H. E. L., Biggs.

The black spots resemble spots of the walnut blight, but they affect only the epidermis and are cracking and peeling. We are not sure of the cause. They are not behaving in the usual walnut-blight way and no injury need be apprehended from them. A blight spot usually shows blackening and destruction of the hull-tissue to the shell and into the nut. If these are blight, some natural condition has arrested their development. You have not aphis enough to hurt so late in the season as this, for they will be kept down by their enemies or by hot winds. Look for them earlier next season, and if they appear spray early with an emulsion or tobacco insecticide.

Unloading Sin on the Climate!

To the Editor: I live near the north shore of San Francisco bay and have six acres apple orchard and five acres to crop and garden. Conditions are peculiar here and trying. Every afternoon during the summer we get a westerly trade wind that blows anywhere from 10 miles to 25 miles per hour, and continues well into the night. During June we had temperatures ranging from 90 degrees at noon to 50 degrees at 8 p. m., accompanied by a cold fog. This extreme in 24 hours seems to check all plant growth. Peas bloom when 6 inches high; beans remain stationary at 12 inches; corn makes little growth and turns yellow. Squash, vine, etc., are thrashed to pieces by the wind and all stuff grows so slowly it seems tough and tasteless. What crops can one grow under conditions of this sort? Grain is out of the question as the land in this valley has been cropped to death for years and nothing returned to the land. Possibly the only answer is, "Sell out," but I hope to get some hopeful suggestions from you.—Beginner, Marin county.

You are blaming the climate too much. Your land needs trenching (or at least deep plowing) and a heavy bombardment with stable manure. This would feed the plants and hold more moisture for them. Your land must be made more loamy—whether it be now either too sandy or too hard, and plenty of organic matter will help it in either care. Your working last winter was too shallow or too late so that much rainfall moisture was lost and your planting of all the things you mention was probably too late. The poor growth of plants you describe is caused chiefly by drying out and not by the temperature. With manure and better tillage the corn will grow high enough to wind-break the squashes and other tender foliage. Get manure, save moisture by better tillage, get more busy and get busy earlier in the rainy season. There is nothing the matter with your climate; it is like that which prevails on the lower lands in most northern coast valleys, and it will make a whale of a crop if the soil is fed and worked right.

Apricot Rot.

To the Editor: I am sending you apricots which decay on one side before the other side is ripe. They are of the Blenheim variety, and when not attacked by this disease are deliciously rich and sweet. The samples sent are characteristic in appearance. Please tell me how the trouble may be overcome.—A. M., Oakland.

The apricots have "brown rot," which is unusually prevalent in some parts of the State this spring, because of the cool, moist air prevailing. Pick off all the affected fruit; do not allow it to remain and dry on the tree, for this carries over the germs in abundance and kills the twigs also. The tree can be cleaned by spraying with Bordeaux mixture before the blossoms open next winter. Under ordinary spring and early summer conditions, however, this fungus does not cause much trouble.

Cherries on Plum.

To the Editor: I have fifty plum trees, and the fruit is not salable around here. I would like to know if I could graft English Morello Cherries on plum.—J. C. S., Ontario.

We never saw it done and have no record of such a graft in the experience of older countries.

General Rules for Prune Drying.

[Written for Pacific Rural Press by J. J. Fox, Napa.]

So many questions are asked regarding the proper curing of prunes by men who are new to the business or whose young orchards are just beginning to bear that this seems a timely season for again publishing the method to be pursued.

The first question asked is as to the amount of lye to be used in the mixture. This depends upon the quality of the lye and softness of the water, but broadly speaking 4 pounds to the 100 gallons where pricker sheet is used or 1 pound of lye to 20 gallons of water in basket dipping is about the right thing for French and Sugar prunes. As the water in the dipping tank evaporates more is added, also more lye, and here is where the operator must be watchful. For the lye does not disappear so fast as the water, and if too much is added the mixture becomes too strong—more so than is necessary and the skin of the prune is broken and its quality impaired. It is, therefore, necessary for the operator to watch his fruit as it comes from the dipper and when the skin is slightly lined, but full and not easily broken, the necessary result has been obtained.

The purpose of dipping the prune is that the waterproof bloom shall be taken off and the fruit put in the best possible condition for drying quickly. To do this they are dipped in the boiling lye mixture for about 2 seconds and immediately conveyed to the trays, though some growers immerse them in cold water after the lye dip. This operation adds very little to the cost where dipping is being carried out by the old-fashioned basket method.

Now, if the dipping mixture is not kept at boiling point the best results are not obtained and without a tubular boiler this is not easy to manage as a box of cold prunes is going into the liquid every few seconds and then the inexperienced operator keeps his prunes in twice as long as he ought so as to make up for the lack of heat. If kept in too long or in a mixture too strong, at the first swipe of the paddle in the spreader's hands a lot of prunes are skinned or abraded and these will flatten out and be put in the discard by the grading machine. Anything that spoils the grade one point is $1.00 a ton loss to the grower where he sells on a flat basis.

In dipping Imperial prunes, a very weak solution is needed as the skin is so thin and tender. In fact, a good many growers use boiling water only and with good results. The Imperial prune must be gathered every other day to avoid sunburn and the consequent browning of the meat just under the skin.

The Robe de Sargent can be dipped in a medium solution, but is much tougher skinned than the Imperial and when properly dried is a handsome black shining fruit, sometimes appearing to have been processed.

When prunes are about half dry and the season is not too late, both quality and weight can be improved by stacking the trays after having moved all the fruit. To do this one must have plenty of trays, and it is not common for the prune grower to provide more than he needs. He generally figures to fill them at least twice.

It is so much easier to demonstrate than to describe the operation of drying prunes as it should be done that I fear this article is rather discursive, but it can be summarized by the following rules:

1. French and Sugar prunes and the new Standard can be dipped for 2 seconds in boiling lye 1 pound to 20 gallons water.

2. Watch the dipped fruit and if "overdipped," add a few gallons of water or be more prompt in taking them out. If they do not wrinkle at all when they come out, add a little more lye.

3. Always endeavor to keep the water at boiling point.

4. Robes de Sargent can be dipped in the same solution if promptly laid out, but will dry well at half this strength.

5. Imperials can be dipped in boiling water only or in a very weak solution or they will crack and stick to the tray too much and may be injured on turning.

6. All prunes should be put 2 trays to 1 (i. e., doubled up) when half dry or else stacked.

7. They must be boxed before they are so dry they will rattle and yet must not be so soft they will lose shape readily on squeezing.

In short, the handling of the prune crop is a matter of judgment. Both weight and quality are gained by an intelligent and efficient operator.

J. J. Fox,
Napa Co. Horticultural Com'r.

WATERING MAKES LATE PEARS.

[Written for Pacific Rural Press.]

Jack McAlister of Santa Clara county got nearly double the price for his pears last year because he held them back from ripening by timely irrigation. The weather in August and September when the Bartletts and Beurre Hardys ripen is a little too warm to accomplish much by irrigation except to increase the size of the fruit. The Hardys were irrigated two weeks before picking early in September; and after they were picked, the Comice, Winter Nelis, and Easter Beurre were irrigated. The Comice were picked just before the Nelis and the Nelis were three inches in diameter before they needed to be picked late in November. The Easter Beurres six weeks after the Hardys, which brought the picking up to January 1. The Easter Beurres were 3½, 4, and 6 inches in diameter at that time. The pears had been held on the trees at least a month later than other people, and some of them were held in storage until March 1 before shipping to the eastern and coast markets.

The pears are right to pick when they are large enough and the seeds begin to turn brown; but this condition is delayed and the size increased by late irrigation. Mr. McAlister ships under his own label to regular wholesale customers—never to auction.

A prominent grower from another section points out that Bartletts from Santa Clara and Alameda districts almost always bring a lower price than fall and winter varieties because they are soft, watery, good for canning but not for shipping.

Pears for Export.—H. A. Fairbanks of the Producers' Fruit Co. points to the considerable exports of Comice from southern Oregon to Europe, and says the trade may be expanded. He also mentions Geo. Anderson of Santa Clara valley as making a specialty of Comice and Buerre Hardy for export, and believes that section is especially adapted for late pears.

There is quite a district rising from the south end of San Francisco Bay, which has cold, heavy adobe soil, usually not very well drained, in many places overlaid with flood silt as much as four or five feet deep where late pears should do well, where blight is unknown and thrips are scarce.

On the other hand, G. M. Brown and H. Richards prefer the Bartletts which they can ship, dry, or can, all at a profit, while the late pears must be shipped.

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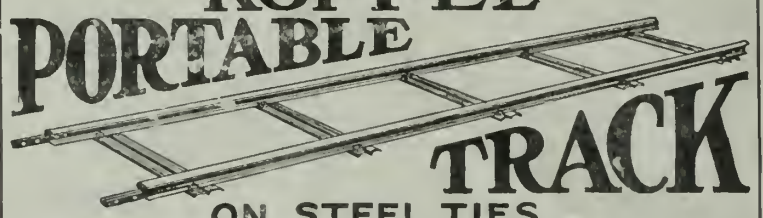
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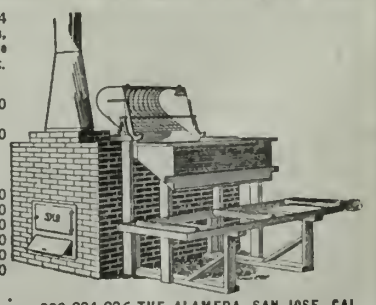
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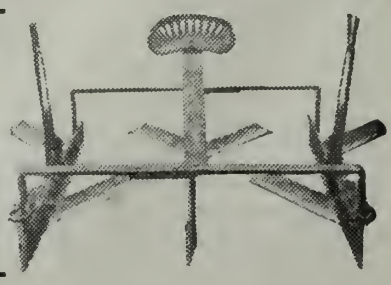
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Peach Budding Under Old Bark.

[Written for Pacific Rural Press.]

Orange clings did not suit C. F. Walker of Fresno County so he had twenty acres of the old trees budded over. Practically all were lost and the trees died. In September (1913) a few of the trees on which the buds had failed to take were rebudded directly into the old thick bark of the main limbs near the crotch by Frank Henry of the same county.

Last winter when these were a little over a year old we saw a number of them which had grown to 1¼ and even 2½ inches in diameter; and had made fine unions.

By making the proper cuts in taking out the top of the old wood, under this system of budding into the old bark, there is no danger of dead wood. That is, instead of cutting square across, make a cut of about 45 degrees down back of the bud. In this way sap is carried all around the scar, causing it to heal over all around.

Well matured buds were taken from limbs ½ to ¾ of an inch in diameter and cut so that the shield would make a 1½ inch circle if flattened out. Vertical and transverse cuts were made into the old bark as usual, and a triangular tongue of the bark ⅛ inch wide at the top and 1½ inches long was taken out along the vertical cut, so as not to close the bud under the bark. The buds were inserted quickly and tied to exclude the air and prevent drying. A little nail was driven where a fine wire could be tied and wound around the limb tightly just above the bud, but below the transverse cut. The light wire is necessary on very heavy bark in order to prevent the old bark from curling up. This wire tends to force the sap into the bud, because it becomes tighter as the limb grows.

Later Pruning Necessary.—Mr. Henry says there should be three buds on each limb to be worked over so it will shade the trunk when the old growth is cut off, and also to help take the sap of the tree. In the second year he would cut out part of the buds. At winter-pruning time, after the buds are inserted, cut off about 50 per cent of the old top, to give the tree a reserve force so as to force the buds out; and during the next spring, cut the limbs back two or three times. The last cut is made in July, since by that time the buds are able to take all the sap.

Budding thus without cutting back gradually but entirely is a waste of time. To cut out all the top of a peach tree at once, back to the trunk is too much of a shock to the root system.

Some buds inserted in various parts of the orchard of other varieties of peaches were neglected in this respect. The limbs were not topped back so the buds did not grow, although they healed into the old bark thoroughly, but they never will start.

SULPHURIC ACID ON ALKALI.

Sulphuric acid treatment of alkali soil by Prof. C. B. Lipman and L. T. Sharp of the University of California promises a revolution in alkali treatment methods. "If our experiments should turn out to be entirely successful, as we now have good reason to think they will, treatment of alkali land [with sulphuric acid] to make it profitable should prove by far the cheapest method of reclamation."

Alkali soils which had been producing practically nothing were brought from a Fresno county field, and equal quantities put into 19 pots. Three of them were not treated and the rest were treated with varying amounts of sulphuric acid and other acids. Pots 1, 2, 3, 4, and 5 are shown in the illustration, the first three having been untreated, the others having been treated with 30.42 grams each of sulphuric acid. Thirteen grains of Beldi barley were planted in each pot and later were thinned to four plants in each. Pots 4 and 5 produced an average of 16.9 grams of tops, 5.4 grams of roots, and .75 gram of grain. They averaged an increased weight of 12.85 grams of tops greater than the plants grown in the untreated soil.

It is especially noteworthy that two other pots, numbers 8 and 9, which were treated with 11.02 grams each of sulphuric acid, had nearly the same yield of tops and roots, while they produced about 3½ times as much grain, so that a smaller amount would seem far preferable.

"The sulphuric acid exerted its influence both in neutralizing the sodium carbonate [black alkali] and in improving the soil's physical condition through its shrinkage of colloids .... .experiments ..... have demonstrated the harmful effects on soil colloids of washing out [soil] salts [by drainage] as well as the removal of necessary elements from the soil."

BERRY-CONTAINER WEIGHTS

To the Editor: What is meant, in "Market Quotations," by the terms "Crate" and "Chest" in giving prices on berries?

In contracting to sell blackberries by the ton, what prices would be right in proportion to the prices quoted weekly in your columns?

When picking blackberries for a cannery are they picked in pails, drawers or boxes?—J. I. S., Los Gatos.

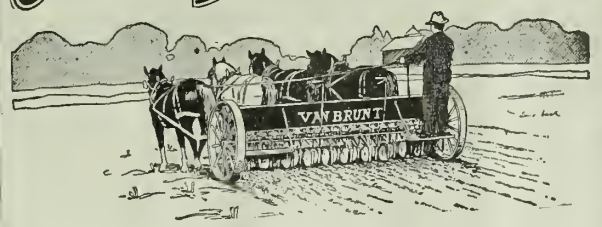
[Answered by S. H. Gray, Pacific Rural Press Market Reporter.]

A "crate" of berries generally contains fifteen small baskets, or about 12 pounds net, of berries. The regular berry chest contains 20 drawers, the net weight of fruit varying. The weight of raspberries would be about 50 to 60 pounds; strawberries, 60 to 70 pounds; blackberries, about 65 pounds.

While there would be some relation between the daily fresh-fruit market quotations and contract prices for a crop of berries, it is too vague and uncertain to say that any price on contracts would be right or wrong in proportion to the daily market figures. The latter fluctuate greatly according to the arrivals and needs of the consuming trade from day to day, or even from morning to afternoon. The canneries take the berries loose in the drawers.

Among the features to be shown at the Sebastopol Apple Show to be held August 14 to 22, will be a reproduction of the Liberty Bell in apples.

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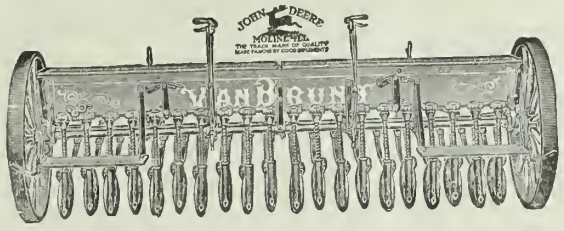
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Fruit Growers' Convention Starts Lively.

[Written for Pacific Rural Press.]

Of all production problems, the kind universally presented for solution by farm papers, universities, and convention speakers is the insect, fungus and bacterial diseases and physiological troubles to which fruits and livestock are heir. The free-for-all discussions which followed all papers read at the California Fruit Growers' Convention held at Stanford University up to the hour of writing, were no exception to the rule. The first two days were devoted to horticultural commissioners' problems, mostly bugs and fungi. They were lively meetings, too, in which experiences from all parts of the Western States were related and compared. They were open to all comers. After their second-afternoon meeting the magnificent university art collection was freely opened as a premonition of the remark made by Chancellor David Starr Jordan in formally opening the convention Tuesday evening: "The University is yours. Make yourselves at home here. Go the limit. Just leave it here when you go home." Registration on this opening night reached 125 and an appreciative crowd heard the papers and asked questions of their authors in the discussions following.

During the convention, the committee appointed to perfect a federation of all agricultural organizations in California will meet and get the Federation under way or else disband, leaving the field open for a fruit federation.

The West Coast Potato Assn. held several sessions July 26 and 27 discussing methods of saving the potato industry from the ruin which is enveloping it by reduced yields due to disease and over-persistent cropping.

Notes taken at the commissioners' meeting, and those taken at meetings after July 27, will appear in a more detailed report next week. Following are some of the points made by the speakers of the first session of the regular convention.

Apple Outlook.—The apple outlook for the season just opening is better than for 1914, according to Horticultural Commissioner J. B. Hickman of Monterey county because the American apple crop is 25 per cent less than last year, because we have a standardization law for the first time, by which the quality, variety, and quantity are guaranteed under a State inspection, and because the growers of the greatest producing district have an organization which with proper support may maintain a minimum price to profit the grower. There is a better outlook for dried apples than for fresh, according to Mr. Hickman, so all seconds should be dried and culls ground up, shipping only firsts. California is not an apple consuming State. Its total production would be used were 1 to 1½ boxes per capita consumed by the people of California. The diversified uses of apples should be advertised. Unproductive trees should be removed if not easily remediable and children should be trained in the rural schools to love orchard work.

Pomelo Outlook. — Prof. R. S. Vaile of Riverside deplored the real estate openings advertised for pomelo culture and suggested that great conservation be used in future planting. This was prompted by the fact that Florida's output is expected to double if no more trees are planted, that the trade, the railway service, and the northwestern states pay an unaccountable premium for Florida grapefruit—and California would, were not Florida grapefruit quarantined from the State. Tests by eminent men were cited to show that when the place of production was not known, the California fruit is preferred. But the Citrus Experiment station is testing new varieties and one may be developed that will entice the trade.

Prune and Peach Outlook.—That the growers need to take a hand in developing American prune markets was the main point made by E. N. Richmond of San Jose. Average American consumption was figured at about 96,000,000 pounds per year. Sales to Europe will not amount to much because our chief customer is cut off from commerce and the others are likely to hesitate on account of the high consumers' prices made necessary by advanced freight and insurance rates, and difficulties of shipping and financial exchange. Prune acreage soon to come to bearing aggregates 15,000 to 20,000 acres. Must dispose of the major portion each year because the carry-over of any crop vitally affects the coming crop. Believes that the peach situation today is due to the carry-over. We are marketing practically all of the 35,000 to 40,000 tons of dried peaches we raise every year, but there has been about the same carry-over for several years which has led peach growers to tumble over themselves to sell, thus cutting prices to disaster. To dispose of each prune crop promptly, we must advertise prunes as breakfast food. The New England states, where they are used most generally for this purpose, are our best markets. Breakfast foods have gained tremendous popularity because American consumption follows advertising.

Peach Outlook. — Horticultural Commissioner F. P. Roullard of Fresno county accepted the title of "goat" and pointed out that the State last year produced 330,000 tons green, but no one knows the proportion of these that were dried, canned, and shipped fresh, though we ought to. California ought to make money from her monopoly on dried peaches, but is not likely to do so while a large part of the crop is sold to the jobber before the blossoms fall. This line of fruit does not get the price effect of supply and demand. The yield averages about five tons green per acre, but varies between two and ten. The above-the-average yield is the only one that will allow the grower to break even, or make a profit. This must be gained by fertilizing, pruning, thinning, spraying, and more care in drying. Lack of a scientific system of sulphuring is a detriment. Has known peaches to get five sulphurings, making them like sole leather, which it is no wonder people won't buy to eat. But there is now no encouragement to produce quality peaches because bum stuff sells at the same price as carefully graded peaches. Graded prices ought to encourage grading and standardization of dried peaches. Not over-production, but under-consumption, is the cause of low prices and this could be overcome by lower prices to consumers, arranged by reducing the loss between them and producers.

Grape Outlook.—"This has been a symposium of pessimists," said Horticultural Commissioner Frank Swett of Contra Costa county, introducing his paper on the grape outlook, "but cheer up, the worst is yet to come." The wine grape troubles, present and prospective, were pointed out as of great injury not only to the table and raisin grape growers but also to tree fruit growers, for replanting of vineyards and deciduous fruits is going on on a large scale. Room for more early table grapes and those which will keep later in sawdust up to about 1,000 cars, were suggested as bopeful conditions. The array of papers on the outlook for various fruits was commended, to curb the enthusiasts who plant only to tear out their orchards as was general in the decade beginning 1900. More of general farming and livestock were emphasized as safe alternatives for the future. Use of grapes in by-products was urged by Frank Henry of Fresno county, who has a display of Muscat jelly at the Panama-Pacific. He would also increase the quality of table and raisin grapes, shipping only the best and feeding the rest to livestock.

Walnut Outlook.—J. B. Neff of Orange county sent an optimistic paper due to the improved co-operative system of handling walnuts and marketing them, pointing out the 13 walnuts per capita in U. S. which California is able to supply.

The International Irrigation Congress will meet in Stockton, September 13-14; Fresno, 15-16; Sacramento, 17-18; and San Francisco, 20. J. B. Case, president of the Congress, has recently arrived from Kansas, and is conferring with the chairman of the various committees.

REPORT OF FRUIT GROWERS' COMMITTEE.

The Fruit Growers' Committee of Santa Clara county met on July 24, and reported no increase in crop by any member, while the feeling was expressed that the present drop from sunburn (or other causes) combined with the extensive cracking that has occurred in many orchards, would tend rather to lower the available amount of sound fruit in sight. In regard to apricots, it is reported that very many have been disappointed in the amount harvested and the indications are that after the first heavy picking, prunes will also be disappointing. Growers are all busy now with the completion of the apricot harvest, but by next week will be more free to consider their prune interests, and the Committee asks them to be on the watch for some important announcement at their next meeting which takes place July 31, 1915.

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DAVIS, CALIFORNIA.

Cover Crops for Permanent Fertility.

(Continued from page 97.)

the scene as a more promising applicant for the task. As two tons of the seed were sowed in the Highland-Redlands district this spring it is probable that a comprehensive verdict will be forthcoming within the year; for, although a biennial, it makes so vigorous a growth the first year that its efficiency as a subsoiler will be fairly proven.

It is difficult to believe that any of those ancient lands which, under continued irrigation, went into oblivion could not have been resuscitated by a few years of planting to alfalfa or the kindred clovers.

In a very lucid letter dated March 13, W. M. Mertz, of the Riverside Citrus Experiment station, says:

"I am sending you a statement of our results with cover crops for the season ending March 1, 1915. Everything points to the great need of an increased organic and nitrogen content in our soils if permanent success is to be achieved.

Best Melilotus Planted Early Sept.—"I have just returned from a trip through the Upland-San Dimas section and Whittier and Orange county, where I have been taking observations of cover crops. In Upland the Melilotus indica exceeded in development anything that I saw, including quite a little acreage of purple vetch. This purple vetch was superior to any of the common vetch acreages, but at this late date had become infested with aphis to such an extent that further development would be practically nothing. Melilotus stood two to three high and was in every way a good stand. A very noticeable difference was seen in the development of that planted in September and that planted later. Everything indicated that to get a good crop of Melilotus to plow by the first of March you ought to sow it not later than September 15. You probably know that the general soil type of the Upland section is a sandy gravel which has usually been considered a difficult one in which to grow cover crops. In San Dimas there was not much Melilotus, but several blocks showed good development fully equal to the purple vetch which was planted by Mr. Lindley at Azusa over quite a large acreage. Mr. Lindley is very enthusiastic over purple vetch. A planting of Melilotus nearby which I think cut as heavy per acre as the purple vetch was still in good vigorous growing condition while the vetch in many cases showed severe infestation with aphis. In Whittier I did not see any purple vetch; but the Melilotus clover, although planted on only a few ranches, was doing very well. The Leffingwell people had put in quite a little acreage very late and although they had a good stand it had not made very much development, ranging from 6 to 12 inches high. Another block planted about October ranged from 2 to 2½ feet high. This Melilotus was all infested with weeds to a greater or less extent. The weeds were in most cases mallow and mustard.

Early Sown 3½ Feet Tall.—"In Orange county I saw several hundred acres of Melilotus, much of which was an absolutely clean stand. This had been planted September 1 to the middle of October and ranged from 2 to 3½ feet in height. I did not see any purple vetch in that section. I saw the finest development of this clover in one orchard in Orange county right between Santa Ana and Anaheim. This orchard must have been 12 to 15 years of age and had been sown to Melilotus both ways. It stood more than waist high over the entire field and was as clean as it was possible to have a planting of anything. The uniform stand extended from flume to waste ditch. The soil was a sandy gravel. We also saw some very fine stands in an apricot and walnut orchard. In several other orchards the Melilotus had been planted very late in November and December and though as yet small, gave promise of making quite a yield before time for plowing under, which, as you know, can be delayed until a later date than is usually considered best with citrus. Our own results with cover crops this past season favored purple vetch in so far as tonnage was concerned. The seed of Melilotus which I obtained last year contained 8 to 10 per cent of weed seed, mainly mustard, so that the crop was materially reduced by this fact. However, the growth showed a yield of 17 tons per acre of green tops two weeks ago. The purple vetch was very good this year and almost clean. The yield of 21⅔ tons was obtained on this plat. Aphis did not affect it as has been the case of the Canada peas, so that possibly this may also account in part for the good development of the purple vetch at the Station."

In this matter of cover crops and humus, the layman and the professional are in the heartiest accord. In cold climates Nature leavens the soil by freezing and thawing. In warm climates her alternative is the roots of growing vegetation. We are studiously turning the pages of her open book; shall we not also lay hold upon the forces with which she works?

Melilotus Best Winter Cover.—Some weeks have elapsed since the foregoing was written, and my own conclusions concerning cover crops may be summarized as follows: Melilotus indica is the most vigorous and promising winter crop so far tried. I sowed it early in October and plowed it under late in May. It was then in bloom, stalks quite woody, and it promises to keep the soil loose and mellow until fall. I believe that a loose soil full of such decaying vegetation will be found cooler in summer than a soil carrying a growing cover crop, unless the latter is watered once a week. The three or four months intervening between plowing under and sowing again is just about sufficient to get the soil in condition for re-seeding.

I would advise sowing Melilotus alba only where the soil has become very hard. A rank summer cover crop seems to draw upon the soil so heavily during the season when the trees are producing their crop of fruit that their foliage comes to look pale and hungry. If alternate lands only in the orchard were so used this condition might be avoided.

So runs my 1915 cover crop story; five years hence all the plants now in favor may have been discarded for something better.

Five hundred acres of land has been purchased in Tehama county by Dr. Owen of Red Bluff and W. Herbert Samson of Corning. The new owners intend to graze a flock of several thousand sheep, in addition to cattle, on part of their newly acquired land.

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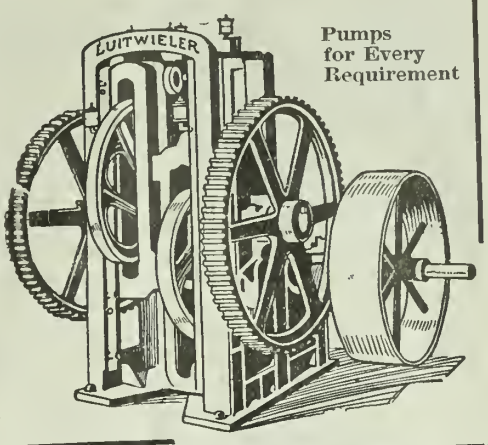
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Mechanical Power on the Farm.

TRACTORS ON HARVESTERS.

[Written for Pacific Rural Press.]

The romanticness of the combined harvester is losing its zest in these days, especially on the level grain-fields of this State, on account of the replacing of the solitary driver perched above the herd of horses and mules, guiding them by a line or two and a loud voice and a long whip, by the perpetually coughing tractors, usually of the caterpillar type.

Yet the Caterpillar itself is almost bafflingly fascinating as it lays its track on each side of the engine, rolls over it, and picks it up continuously just out of the way of the harvester itself. One driver only is necessary for the outfit, whether of 32 mules or of one tractor, but both must be skilled drivers; while the one who guides a team may have a runaway, the tractor driver may on the other hand have to stop for repairs, though we saw none of either of these troubles on a recent grain-section trip.

Repairs need not worry the tractor driver if he overhauls the machine at every opportunity and keeps it in good shape. They had better worry him if they are necessary during the working hours of the harvesting crew, for the machine is supposed to make at least $60 a day for its owners, out of which is paid the wages of a crew of 5 to 7 men. Since it is desirable to get the grain out of the fields as soon as possible, continuous running is very desirable after the grain has dried off, in the morning. There is no need for the careful driver to have much trouble.

However, in making turns on steep hillsides, the tractors often have considerable difficulty. Most of the weight shifts to the lower side of the engine and she slides downhill in making a turn, losing much of the grip which is necessary to keep up a speed that will make the harvester run fast enough to beat out the grain.

Sometimes, too, the horse power of the engine is not enough to haul the harvester over a hill except on low gear, which is not fast enough to run the machine most efficiently. To minimize both of these tractor troubles, an auxiliary engine to run the machine while the tractor simply pulls it, costs a few hundred dollars and enables the harvester to work continuously in rush seasons. The tractor then gets no "tired feeling" nor overheating at 100 degrees temperature if properly cared for.

OIL STORAGE FOR FROST.

H. E. Wilkinson was cleaning some of his frost pots when visited March 2 last spring.

"The frost alarm went off at 32 degrees this morning; and I wouldn't take them up for a month yet, but we have so much spring work to do that we must take chances with a few of the pots."

About 25 acres of Eureka lemons are protected on this ranch by 1500 three-gallon pots, and 700 seven-gallon pots, built for perfect combustion. "For," as Mr. Wilkinson says, "we cannot afford to soot the fruit. That makes it mighty hard to wash and increases the danger of its rotting."

He uses "smudge oil" bought through the Fruit Growers' Supply Company. If it is bought in time, he gets a guarantee that the oil contains not over 6 per cent of the asphalt which is detrimental to the fires.

"I'm not afraid of 22 degrees temperature with my own equipment. We escaped harm from the big freeze when the thermometer went to 26 degrees and we could hardly face the wind, but I had as many as eleven men keeping the frost pots going. I would be afraid of coal pots. My observations of neighbors' coal-pot outfits is that they are slower to start and do not generate enough heat. If a man has any system at all, he might as well have the best." We had examined a number of such outfits that morning and found the kindling wet — dangerous business when frosts were probable.

His fearlessness is due partly to his ample equipment of large pots, as mentioned, and partly to his storage reservoirs, as well as to the usual frost alarm which is set at 32 degrees and rouses out about four men, two of whom have motor cycles, and all of whom are lighting the pots within half an hour.

The total capacity of the burners is 9,400 gallons. They are kept full and ready to light. He figures that 9,000 gallons is full night's burning. Besides what is always ready, there is a galvanized oil tank on a hill

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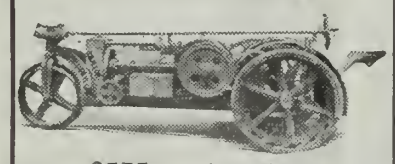
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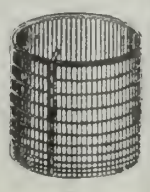
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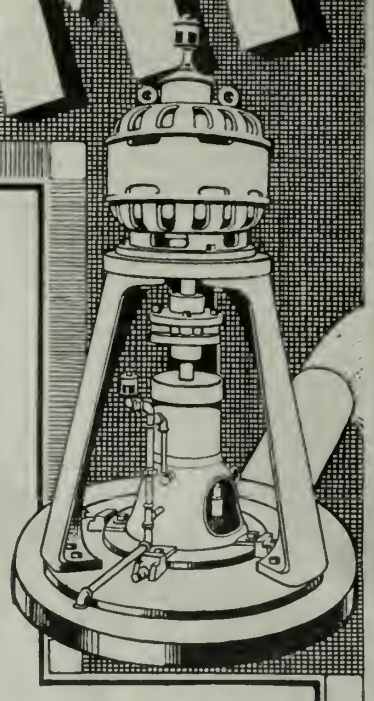
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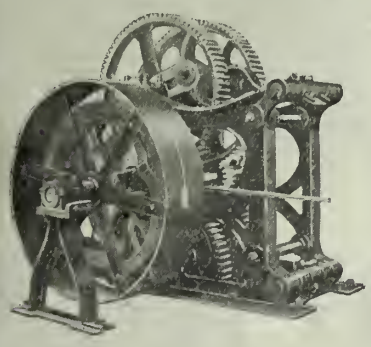
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with 10,000 gallons capacity and an 8,000 gallon cement tank, 11 feet deep, mostly underground. The underground feature is very desirable, but there is something the matter with the cement, since he estimates that 2,000 gallons of oil have been lost in the last five years by leakage, though he hasn't noticed any bad effect on the trees.

PORTABLE BARLEY CRUSHERS.

[Written for Pacific Rural Press.]

Several barley crushers on wagons able to move from ranch to ranch are operated in the Montezuma hills of Solano Co. One of these machines operated by Peter Lighthall crushes 800 sacks per day of six hours. The advantage of small portable outfits is that no one wants to crush too much barley at once on account of the mites getting in and spoiling it, and a portable outfit will serve for several farmers.

Mr. Lighthall's outfit is hauled from place to place by three pairs of horses or mules hitched tandem. A 26 h. p. Samson gas engine is mounted over the iron front wheels of a long wagon truck, while the crusher is set over the back wheels, with fuel tanks between them.

In cases where the barley is picked up after the thresher and piled near the gate of the field, to use one of these portable barley crushers saves once handling of the grain. It may be crushed there and hauled directly to the store house.

The outfit is driven up beside the pile of barley, a canvas is spread out under it to catch whatever may be spilled in the crushing, the brakes are set on the wheels, and the engine started. Two men dump the barley into the hopper; one man packs the rolled barley into sacks from two chutes; and two men sew the sacks. Mr. Lighthall himself superintends the job and takes care of the engine. The fuel and oil costs about $5 per day of six hours.

Perry Anderson of the same district has a system which is better under many conditions, for he uses a Caterpillar to haul the outfit from place to place. When the machine is set for a job, the Caterpillar's belt wheel is connected to the crusher and business begins. In this way, the power that is used in hauling the outfit is not idle during the time the outfit is rolling the barley, and the separate engine is unnecessary.

QUICK PLOWING AFTER RAINS.

"Tractors are what saved the Yolo grain farmers this year," says Farm Adviser N. P. Searles. "It rained pmp, pmp, pmp all through March, April, and early May, so when good weather came and the ground was fit to work they had to go to it with a vengeance, plowing night and day; or they never would have gotten the grain in. With horses so scarce, they could not have gotten stock enough to do the work."

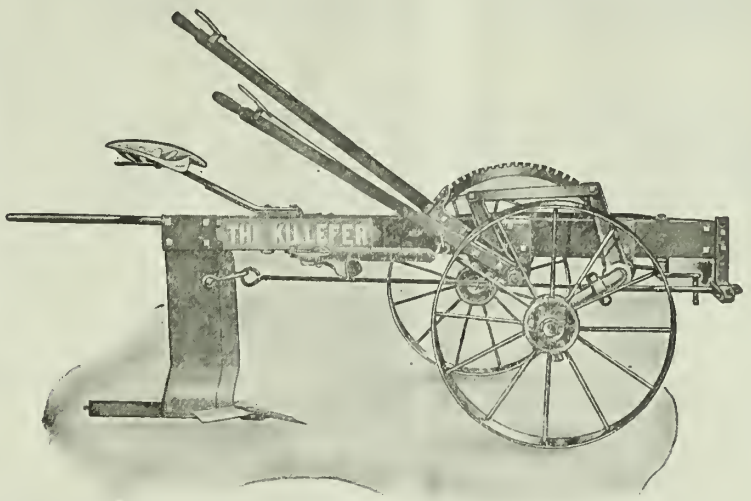
Horse breeders using tractors may be seen in Solano county where John McCormick, owner of some fine stallions, uses tractors to run night and day during the rush plowing season. Both are and will continue to be necessary to California agriculture.

Chas. M. Connor of Orosi has been appointed Farm Adviser of Stanislaus county to take up his duties at Modesto on July 29.

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The axles are large with long wheel bearing. This plow is equipped with a compound lever which enables the driver to level it to any of the irregularities of the ground. At the same time it is only necessary to use the one lever to raise the plow at the end of the row. The compound lever works in connection with a heavy coil spring, which assists materially in handling. The foot lever controls the shifting hitch and is below the frame, making it much easier on the driver than the old style.

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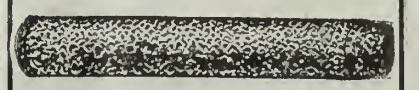
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General Agricultural Review.

CITRUS AND SEMI-TROPICAL.

The largest orange packing plant in the world, having a capacity of 22 cars daily, is claimed for Lindsay.

It is estimated that the California lemon crop up to June 15 has been 8000 cars, or double that of 1914.

A date farm under the direction of W. R. Nuttlng is reported to have been started on 60 acres near Reedley.

Fumigation for gray scale has commenced in Tulare county, the orchards around Lindsay being the first worked on.

An association to market fruit through the California Fruit Exchange is under consideration by the orange growers of Garden Grove, Orange county.

A dividend of $15,000 has just been received by orange grower members of the Monrovia Fruit Exchange; and it is expected that the season's total dividends will total $60,000.

The packing of early Valencia oranges has ceased at the packing house of the Anaheim Citrus Fruit Association. This association has grown in its six years' life from 14 members and 80 carloads of oranges to over 200 members and 500 carloads of fruit.

An organization known as the Northern Tulare County Citrus Association has been formed at Sultana, and the construction of a packing plant has been commenced. The following officers are in charge: C. C. Threlkeld, president; Edw. Scruggs, secretary; and these with E. Barris, J. E. Simons, and A. Schilling constitute the Board of Directors.

DECIDUOUS FRUITS.

Two thousand cases were put up in the first day's work at the two Visalia canneries.

The contest for fresh fruit prizes at the Panama-Pacific Exposition will be entered by Nevada county.

The Fifth Annual Apple Show will be held at Mendocino on October 26 to 29.

On July 24 the first freight shipment of Tuscan cling peaches left Atwater.

The shipping of fresh peaches has begun in Yuba City, several carloads having gone out recently.

The Sacramento plant of Libby, McNeill & Libby will operate full force this summer.

An apple show will be held at Yucaipa, San Bernardino county, during three days in October.

Shipping of Bartlett pears will commence at Grass Valley on August 1, and the crop promises to be a very large one.

It is stated that shortly 20 carloads of Gravenstein apples from Sonoma county will be shipped to South America.

Early in August the International Apple Shippers' Association will hold their convention at Chicago in connection with their sixth annual apple show.

Forty acres of five-year prunes and almonds were recently purchased from Alexander T. Gibson of Butte county by James and John Kelly of Fairbanks, Alaska.

That the Kings county fruit crop will amount to about $1,475,000 this season, is the estimate made at the present time. The new standardization law which becomes effective Aug. 9 will not be enforced in that county as most of the fruit will have been shipped by that time.

At a recent meeting of the Santa Clara Farmers' Union it was decided to hold for good prices all fruit handled by the association; members of the Union handling their own fruit expressed the determination to do likewise.

Last November a grower in Chico, discouraged at the low prices being paid for dried peaches, packed his product in sacks and shipped the lot —thirty tons— to Minnesota. He followed, and opened headquarters in one of the interior towns, selling direct to the consumer. After having disposed of his entire crop at a good price, he recently returned home to look after the harvesting of this season's crop, which he intends to dispose of in the same way.

OLIVES AND NUTS.

A record crop of almonds is reported from the Pennington section of Sutter county.

A co-operative association of Oroville olive growers is under consideration.

A consular report states that the 1915-16 southern France olive crop is encouraging.

Santa Barbara county's walnut crop will be 20 per cent above normal, according to the County Horticultural Commissioner's estimate.

On account of the discovery of water in the West Palermo section, an olive boom is being experienced, hundreds of acres being planted.

The California Almond Growers' Exchange has received under date of June 30th, 1915, crop report from their representatives in Spain, who have been investigating conditions abroad for the Exchange. They state: "Since we last wrote you we have heard from Italy to the effect that the new crop is not expected to yield more than forty to fifty thousand bales and is said to be practically a failure. The crop last season was three hundred thousand bales. No news from Persia yet, but reports from Morocco agree that the crop there is going to be fair. In the Alicante district in Spain the crop promises to be an average one. The Valencia crop is only fair and the Jordan crop is generally disappointing."

The Spanish and Italian nuts are those generally imported by the



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OWING to the enormously increasing demand we suggest that you place your order with your feed dealer now, for your season's requirements, to avoid possible disappointment.

Those who have used this succulent, milk-producing, vegetable feed and know the certain and profitable results obtained by its use, do not need to be told of its richness in carbohydrates and its general desirability as a ration for dairy cows.

To those who are not using LARROWE'S DRIED BEET PULP we will gladly send evidence of remarkable results obtained by prominent dairymen and feeders, together with valuable suggestions concerning feeding.

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If you are feeding an exclusive diet of alfalfa, just try the addition of Larrowe's Dried Beet Pulp and see what a difference it makes. Not only will it increase the milk flow one to five pounds per cow a day—the increase being noticed almost immediately—but it will make your cattle healthy, sleek-coated, bright-eyed and prolong their milking periods.

Larrowe's Dried Beet Pulp is light, bulky, succulent and easily digested; absorbs water very quickly and swells to about six times its original bulk; is cheaper than bran and other mill feeds, yet produces better results.

It is put up in convenient 100-lb. sacks, and may be had either plain or with molasses. Ask your dealer for "Larrowe's."

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United States and it has been said that the price named by Italian shippers very largely influenced the market on shelled almonds. The almond crops in Europe, like those at home, are not nearly so promising as was the case some weeks ago. In several districts in California the crop will not be equal to last season and quite a number of growers have reported complete failures in their immediate locality. On the other hand, some new acreage is coming into bearing in the newer districts this year which will, to some extent, offset this deficiency. It can be said, however, that as a whole the almond crop in California is not nearly so large as those who are interested in low prices would lead growers to believe. The trend of events in Europe will probably determine later the policy with regard to future prices.

GRAIN AND FIELD CROPS.

Potatoes are the most important crop grown in Alaska.

The Corcoran grain crop is estimated at 700,000 sacks this year.

A Lemoore corporation will plant 700 acres of beets in the Stratford district this fall.

A rice mill to take care of their products is under consideration by growers of Yuba and Butte counties.

The Canadian wheat crop is estimated at 200,000,000 bushels, in spite of unfavorable weather conditions.

One thousand tons of alfalfa hay have been ordered from Yolo county to be shipped to the Humboldt County Farm Bureau.

A co-operative association of rice growers has been formed at Oroville to be known as the Pacific Coast Rice Growers' Association.

After rigid investigations, it has been found that the Stanislaus county bean crop is absolutely free and undamaged from insect pests.

Griffith Bros. of Fresno and San Francisco are said to be contemplating extensive operations on their land in the rice belt near Wasco.

The melon season at Turlock is in full swing; up to July 20 twenty-six cars had been sent out. Fourteen dollars per ton is being paid to the growers.

On account of the success of the experimental planting of 300 acres to sugar beets in Oakdale, the acreage will be greatly increased this coming season.

With 55,000 acres in bearing, it is estimated that the Kings county alfalfa crop will return to the growers more than two and a half million dollars.

A large amount of alfalfa has has been reported to have been purchased in San Joaquin county by the manager of the Humboldt County Farm Bureau.

A contract for 300 tons of baled alfalfa hay at $8 a ton has been made with E. R. Watson & Sons of Dixon by the Humboldt County Farm Bureau.

On the Natomas Consolidated reclamation district in a fork of the American and Sacramento rivers is a large acreage now planted to beans and corn.

A field of 200 acres of Indian corn in the Delta islands is reported by Farm Adviser F. F. Lyons as having yielded 90 bushels per acre last year.

Exportations of beet pulp to the United States from Spain are rapidly increasing. From Barcelona in 1914 pulp to the value of $119,052 was sent to the United States, as against $67,950 worth in 1913.

Several thousand bushels of grain were so tightly packed in the warehouse of the Deacon Lumber Company at Lemoore as to cause it to burst last week. The building was totally wrecked, the loss estimated at $4000.

GRAPES AND SMALL FRUITS.

The packing of Thompson Seedless grapes began on July 22 at the Dinuba packing house.

The hot weather has hastened the ripening of grapes in the Dinuba section, and if it continues the first Malagas will probably go forward on Aug. 1 instead of 15 as was first expected.

MISCELLANEOUS.

Trinity will take part in the Northern California district fair to be held at Redding in September.

The Turlock Merchants' and Growers' Association has elected the following officers: President, C. C. Carlson; First Vice-President, Geo. Scherer; Second Vice-President, W. H. Lockwood; Third Vice-President, Dave Johnson.

During the Fruit Growers' Convention at Stanford University, college men engaged in agriculture will meet around the banquet table Friday evening, July 30, for consideration of the formation and permanent organization of college men engaged in agriculture, irrespective of what State or college they come from. All men are urged to be present.

Meetings of interest to farmers to be held at the Exposition during the week of August 2 to 8 are: Association of American Dairy, Food, and Drug Officials, Aug. 2-5; The Society of American Bacteriologists, Aug. 3; The Universal Corn Convention under the auspices of the National Top Notch Farmers' Club, Aug. 5; California State Bee Keepers' Association, Aug. 5; and Official Dairy Instructors' Association, Aug. 7.

A co-operative association to engage in general shipping, buying, and hauling of farm produce has been organized in Fallon, Nev., and will be known as the Farmers' Union Co-operative Association.

A special refrigerator car carried by the Green Fruit Special over the Santa Fe will enable farmers of Tulare to send their produce of all kinds to Los Angeles in exceptionally good time; the car will leave Tulare at 8:45 p. m. and reach its destination at 12:00 o'clock the following night, and a reduction of shipping rates over express rates has been made.

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Twine, Tents,
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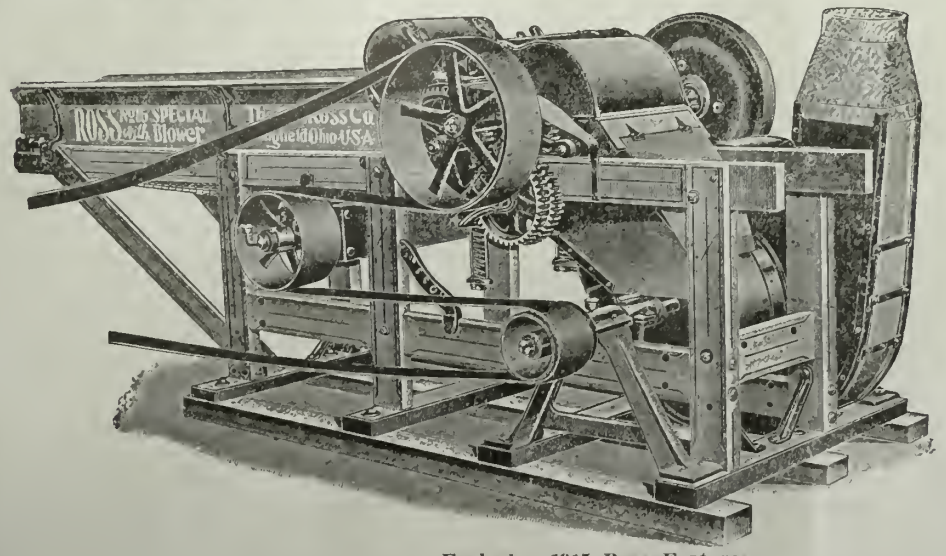
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THE possibilities for engaging in the dairy industry in California do uot require comment. However, for the benefit of the minformed I might state that in the past decade this industry has made very rapid strides. Not many years ago we found it necessary to import from the East a large portion of our butter and cheese, while today our dairy industry has so increased that we are producing enough to supply our own demands and also export some to other states and territories. With an expanding market there is no fear that this great industry will be ever overdone by ruinous competition. Butter prices will always hold up, and consequently the opportunities of engaging in this industry are as bright or brighter today than they ever were. Farm journals and Experiment Stations in the Middle Western states are urging their dairymen to raise alfalfa as they realize that this is the ideal roughage for diary cows. But a Middle Western alfalfa raiser does not know what a real crop of alfalfa is unless he visits the Sacramento or San Joaquin Valley. Their short growing season leaves the Middle Western dairyman no opportunity of successfully competing with us.—Charles Keane, D. V. S., State Veterinarian.

How a Cow Testing Ass'n Succeeded.

The Principle of Cow-Testing Associations Assures the Dairyman a Square Deal from the Creamery, and Tells Him the Butterfat Value of Every Cow. Testing Makes for Profit—Not Expense.

[Written for Pacific Rural Press.]

If you can't convince a dairyman to join the local cow testing association on the grounds of higher production, perhaps you can show him how a check on the buyer of his cream would be worth the cost of testing.

That is the way that Geo. H. Zehndner, tester for the Arcata Cow Testing Association, has induced a number of large Portuguese farmers to join the Association, and the gratifying part of the whole thing is that once they start to check up the cream test, they continue in order to be sure their cows are not worse robbers than the creameries.

Last year was the first time that a cow testing association was available to dairymen around Arcata, the Ferndale Association having tested about 800 cows there. This year, however, it was thought best to establish an association at Arcata, and at present there are 1200 cows entered in the new association. This represents better than 25 per cent of all the cows in the section and it is thought that in time a much higher percentage will be tested.

The smallest herd tested is a six-cow one, and they run from that up to over a hundred. Payments are made every three months in advance, the annual cost being one dollar per cow. Dairies with less than 25 cows are not visited by the tester other than to collect the samples once a month. The practice in these small dairies is to leave the dairyman sample bottles and scales and teach him how to take his own samples as well as weigh the milk. If there are several small dairies close to one another, the testing is done on one dairy for all of them; otherwise, the samples are taken to the nearest large dairy where they are run out. This makes it possible for the small dairyman to receive equally as efficient results from his membership in the association as his larger neighbor, and also permits the tester to handle more cows than would otherwise be possible.

As it is to everyone's interest to know absolutely what his cows are doing and what his test is, no instance has been noted of members being anything but honest in their weighing and taking samples of the milk.

Five large Portuguese farmers have joined the association primarily to check up on a creamery they were selling to and they claim that the savings from this alone have more than justified the expense. In fact, one stated that he had received higher tests from the creamery this year than ever before since he has been dairying, although he has the same herd and same conditions.

As the principles of testing are chiefly to cull out the boarders, however, Mr. Zehndner is rapidly convincing the dairymen of the value of the test other than the creamery check; and stated that he considered it entirely possible that all of them, as well as many others of their nationality, will retain membership in the association for the purpose of building up their herds.

This is being made possible by the comparison of records which the association furnishes, the highest average production for the month of May being 50.1 pounds of fat, while the lowest was but 27 pounds. The 50-pound herd is one which has been steadily improved for years with purebred Jersey bulls and it stands out so conspicuously as a producer that even the most skeptical can see the need of improvement along the same lines.

COWS, PRUNES, COVER CROPS

[Written for Pacific Rural Press.]

The orchard helps the cows and the cows help the orchard on the Sorosis Farm in Santa Clara county. There are 240 acres of orchard, mostly prunes. All of it is under irrigation, so cover crops can be handled at pleasure.

In one part, alfalfa is grown in broad strips between the rows of trees and is cut as a soiling crop for the dairy cows, of which there are about 50. Legume cover crops such as Canada peas and vetches are grown on a large part of the orchard and the cows are turned onto that a few hours every day until they get full, during the first four months of the year.

The Sorosis people have been buying pea vines from the cannery to make silage, but it is now proposed to use the peas and vetch grown as winter cover-crops to silo for summer feed for the cows after they are taken from the orchard. The manure from the cows is returned to the orchard.

The owners get cash from both the fruit and the dairy branches of the farm while each branch helps the other to make more money.

A JERSEY ADVOCATE TO THE FORE.

To the Editor: I see in a recent issue of the Rural Press an article signed "Reader, San Joaquin county," wherein he states it is almost impossible to sell a Jersey bull. If he has grades, quite likely he is right, as with other breeds, also; if he has registered Jerseys, probably the reason is he has done no official testing, as people nowadays want official proof of what they are buying. My reason for thinking so is that I don't believe there are two registered Jersey bulls old enough for service in Stanislaus county for sale. Of course, on account of write-ups of other breeds you would think that the Jersey had gone back to the Island, but the Jersey is soon going to tell the dairy world what she has been doing while she was thought to be asleep. I have seen such foolish ideas published about the Jersey cow's constitutional weakness. Why, on the Island of Jersey, the inspectors have failed to find a single case of tuberculosis, and she is found way in the North, also way in the South. In Australia and New Zealand she is the settler's choice almost without exception. Now the Jersey cow may be the tail end of the dairy world, but the tail end is what counts with me if it is on the Jersey. Yours for more Jersey bulls to make more better dairy cows, also thanking the Press for its stand on dairy matters.

Modesto. D. F. Conant.

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PACKERS estimate that 350,000 head of cattle are consumed annually by the California markets. Of this amount, 200,000 are shipped into the State from Arizona, New Mexico, and Nevada. Those brought from Nevada are mostly in a finished state. Those brought from the Southwest, which constitute the largest number of the State's imports, are mostly for maturing and fattening purposes. The additional revenue secured from raising such cattle in this State would increase the earning power of California's land several million dollars annually. This can be accomplished by breeding more on the range and maturing and fattening less, allowing the smaller farmer an opportunity to finish on higher-priced lands and feed.

California's War Horse Trade to Date.

It is Stated that 300,000 Horses for the European War Already Have Been Shipped from This Country. Buyers Are Now in California—but How Many Will be Needed Is Problematical.

[Written for Pacific Rural Press.]

From earliest history, a horse sale has been covered with more or less secrecy; but seldom has it been so difficult to "get a line" on the horse game as has been the case since European buyers started purchasing cannon feed a year ago.

Dealers, as well as farmers, have been "up in the air," generally speaking, and real news or information seems impossible to uncover till such information is past history.

Wild guesses are made almost daily and will probably be continued, for as long as the European buyer can keep us guessing he is in a better position to buy at his own terms.

At the present writing, the situation from a California and Nevada standpoint seems to be about this: The French, English, and Italians have been the chief purchasers. At the beginning of the war they confined their efforts to the East and Middle West, cleaning up the country there of the most desirable animals. This buying was done in various ways, always under cover of secrecy in order to create an uncertain feeling, and thereby hold prices down.

After cleaning up the Eastern and Middle Western territories, they shifted their chief activities to the Rocky Mountain territory and have gradually reached out to California from their present base at Denver, Colo.

To date there have been approximately 10,000 horses and mules purchased for this war trade in California, according to the best belief of horse dealers here. Nevada, they claim, has already been pretty thoroughly cleaned up except fuzz-tails and other undesirable types.

To date the French have done most of the buying here, their purchases being confined almost exclusively to gunners. Their specifications for this type call for horses over five years old, not less than 15 hands, 2 inches high, and weighing from 1100 pounds up. Good heavy bone is demanded, no preference being shown for mares or geldings, except that they must not be whites. Animals which do not meet these requirements are rejected.

One San Francisco dealer at whose yards about 600 head of horses were inspected by French buyers, states that so far prices have ranged between $130 and $160 and that this was much less than it would have been had the local market been at all active. He claims that many of these horses would ordinarily sell on the local market for $200 to $250 and are really worth that figure. Of the 600 head inspected at his yards, he believes not more than 20 were poor animals, and gives the inspectors credit for being careful and judicious buyers.

It seems, however, that the regular horse dealer is not getting very fat on the war horse, due to the fact that the principal buying is done in the country. At present one large dealer in Denver has 30 buyers in California scouring each county or section where horsese might be available. His usual procedure is to offer the farmer so much for his horses if they pass inspection. He is accompanied by a veterinarian who does the inspecting, and the deal is closed up if all conditions are favorable to farmer and buyer. These horses are then assembled at a central point and shipped to Denver where the foreign buyers do their inspecting. If the horse does not pass, it is sold on the Denver market for what it will bring. If accepted, it is sent to some Atlantic seaport for ocean shipment.

Country buying makes secrecy still more possible as no one can collect data from such scattering sources. The city dealer's chances of controlling the supply are obliterated by country buying also, as the foreign buyer can pay the farmer as much as the dealer receives after assembling the horses and standing the loss on rejected ones. It is a clever scheme to cut out more than one middleman and seems to be working perfectly. Attempts to cut in on the profits of this trade have been made in some localities by parties assembling horses at one place for inspection in the country. Notwithstanding the inspector's promise to purchase those coming up to specifications, they have in many instances failed to even make an appearance, thus leaving the speculator with a big bunch of unmarketable horses. Later perhaps another buyer turns up and gets the horses at his own figure, due to the fact that no one knows when the demand will stop or how far it will go.

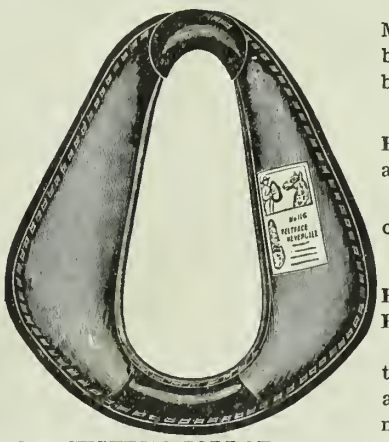
The English have not been active in this field, but are beginning to make heavy purchases of mules. Mule prices are given at the same figures as for horses, the chief specification being that they weigh from 1100 pounds upward and are good boned and sound. Six hundred head of such animals were assembled at Roseville last week and buying in this line is expected to continue, although, as with horses, no one can be certain.

Reports have it that French and British buyers are letting off, but that the Italian buyers will soon enter the market. In the past, the Italians have not sought class, but are said to be changing their methods now and will demand good ones.

One French buyer who operated in San Francisco estimated that his government had purchased 300,000 head of horses in the United States to date. Considering the proposition from the various angles, it seems very probable that California buying completes the first combing of the country, as it is the furthest point of shipment. On their first trip, they are picking the cream. If the war continues, they will come later to accept what they have been able to reject this time.

The whole thing is problematic, but at any event the owner of good horses can feel confident that he is in a safe position, for though he may not get his price from the foreign buyer, it is certain that the home market will be affected by the clean-up now going on and that prices will likewise hold up for really desirable types.

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We have several splendid grandsons of this now famous cow which we can deliver to you at prices which will suit the pocketbooks of every dairyman wishing to improve the quality of his herd, whether it be a grade or pure-bred herd. These bulls are sired by our herd bull, Prince Alcartra Korndyke and out of A. R. O. cows, and the only living grandsons of a cow having a record of over 30,000 pounds of milk in a year. Such an opportunity for increasing production has never been offered DAIRYMEN AND BREEDERS in California, price and quality considered. Buy one of these bulls and solve your low production problem. Write

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With the Live Stock Men.

DAIRYING.

The Sixth Annual Dairy Cattle Congress will be held on September 27 to October 3 at Waterloo, Iowa.

About one thousand pounds of butter per day are being made at the plant of the Laton Co-operative Creamery.

A cow 23 years old, giving three and a half gallons a day at the present time, was recently found on the ranch of Henry Baty near Tulare.

The second semi-annual sale of registered Holsteins of the Western Washington Holstein Breeders' Association will be held Sept. 15 on the Snohomish County Fair Grounds.

A picnic under the auspices of the Humboldt County Dairymen's Association will he held at Loleta on July 31; among the speakers of the day will be Prof. J. I. Thompson of the University of California.

Stanislaus is the banner dairy county of California; and according to the annual report of the County Assessor, there are 6,500 head of cattle, both dairy and feeder stock, in the county.

Aaggie Acme of Riverside 2nd, owned by A. W. Morris & Sons, four years old at the beginning of her semi-official test, has a seven-day record of 28.48 pounds of fat; and is expected to make 1000 pounds of butter in the year.

Extension work in dairying is to be taken up by the University of Nevada in co-operation with the U. S. Dept. Agr. by the appointment of a Field Agent to work continuously with the farmers in learning their problems and helping them when possible.

The State Dairy Bureau has an income of over $13,000, according to an audit recently made of the books. Fines totaled $6798.92; the money received from oleomargarine licenses amounted to $5423.70; and other items of income, including $1582.05 for laboratory tests, made up the total.

Recent sales by the Carnation Stock Farm at their stables on the Exposition Grounds are as follows: Young bull, Premo Gerber Julip 5th, to Peterson & Persson, Avent; Premo Gerber Julip 2nd to H. S. Tregoning, at Caspar; and registered heifer to Ruby N. Williams, Palo Alto.

The great increase in the dairy industry in Orland is shown by the fact that during the last six months the number of dairy cattle in that section has increased from 2560 to over 3500. A year ago, one creamery was in operation, turning out about 700 pounds daily; now two creameries turn out about a ton a day.

In the recent butter scoring contest held under the auspices of the University of California, butter from the Visalia Co-operative Creamery took first place; the Sunset Creamery of Loleta, second; and the product from the Hanford plant of the Los Angeles Creamery Company, third.

Word has been received from McAlister & Son of Chino to the effect that the date of the A. W. Morris & Sons and McAlister & Son combination sale this fall at Sacramento has been definitely set for October 6 and 7. This sale will embrace many high seven-day and yearly record cows, and every animal consigned will be of splendid individuality and every cow a large producer. McAlister & Son will consign in all 75 head.

The alfalfa sold by the Yo-Solano growers to Humboldt county dairymen will return in the form of butter to San Francisco and probably sell at better prices than the Yolo county product, owing to the fact that the Humboldt county people pay better prices for graded cream.

J. E. Thorpe has offered a pure-bred Duroc pig to the winner of the first quarter's cow testing in the San Joaquin County Association, in which they now have 1,100 cows. One man is claiming the pig already because he has led for the first and second months during which the association has been running.

CATTLE AND SHEEP.

The weather in Arizona is reported to be hot and dry, but the ranges are in fine condition.

It is estimated that the cattle shipments from Gila county, Arizona, will exceed $1,000,000 this year.

Twenty-five head of beef cattle were recently sold by J. J. Leonardo of Alameda county to a Tracy butcher.

P. Connolly of Livermore valley recently purchased 25 fine Shropshire bucks from C. E. Barnhart of Suisun.

During April of this year, cattle rustlers made away with 137 head from Colusa, Yolo, and Lake counties.

Four hundred head of Mexican steers were recently sold by Archer Parks of Alameda county to the Oakland Meat Company.

An order for ten Merino rams to be shipped to the Hawaiian Islands has recently been filled by Chas. Kimble of Hanford.

Forty carloads of Mexican cattle were recently sold by the Hearst Estate of Alameda county to an agent of the French Government.

W. J. Martin of Pleasanton recently purchased 40 head of beef cattle from J. J. Moy and 15 head from Nevin Bros., both of Alameda county.

The Carmel Cattle Company near Wasco has about 3200 head of stock. It is the intention of the owners to plant 2000 acres to alfalfa next season.

Frank Wilder, manager of the Bald Hills range of Shasta county, recently sold two carloads of cattle to the San Francisco markets for the Menzel Estate Company.

It is said that the French Government is in the California market for 40,000 head of beef steers, weighing from 1150 pounds upward, in trainload lots.

An agent of the Division of Ani-

LIVESTOCK DIRECTORY.

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DAIRY CATTLE.

12 HEAD OF FULL-BLOODED AYRSHIRES for sale. Fine foundation herd for anyone desiring to start in the registered dairy cow business. Contains some of the best blood to be had at any price. For particulars address MOORLAND FARMS, Susanville, California.

FOR SALE—One pure-bred Guernsey Bull. He is of the Langwater breed and has a butter fat record of 850 pounds a year in his breeding. Five years old this fall. Dr. D. J. Turner, Gridley, Cal.

FIVE REGISTERED HOLSTEIN cows and four heifers priced for quick sale. K. W. Abbott, Milpitas, Cal.

REG. HOLSTEINS—We offer choice grandsons of King Begis, also grandsons of the world's record cow. Creamelle Vale; blood that increases the value of your herd. Write or call and see our herd. F. H. Stenzel, San Lorenzo, Cal.

FOR SALE—3 A. R. O. registered Holstein cows, one fresh, two heavy Springers and yearling registered heifer. Price, $1100. One complete cheese outfit. Manning & Smith, Kerman, Cal.

REGISTERED HOLSTEINS—Young bulls sired by King of Riverside and Lakeside Model Prince from A. B. O. fame. J. H. Harlan Co., Woodland.

FOR SALE—About 60 head of fine dairy heifers from 6 months to 2½ years old. Grade Jersey and Holstein. J. B. Smith, 226 Alameda Ave., San Jose, Cal.

HOLSTEIN BULLS—Pure-bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

FOR SALE—60 Jersey heifers, $30 each. 55 Jersey cows and 4-unit Sharples milker and separator, $5000. Terms. C. B. Crawford, Buttonwillow, Cal.

FRANK MEAGHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

GALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

AYRSHIRES—For sale, fine young bulls from Imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

REG. GUERNSEY BULLS for sale. Grapewild Farm, Mayhews, Sacramento county, Cal. A. B. Humphrey, Prop., P. O. Box P.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class, thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

REGISTERED HOLSTEIN BULLS Serviceable age. From finest strains. Panama Pacific Dairy, Sutter Creek, Cal.

JOHN LYNCH, breeder of Registered Shorthorns. Milk strain choice. Young stock for sale. Box 321, Petaluma, Cal.

REGISTERED JERSEY BULL CALF—Six months old—a fine animal. $40 if sold soon. O. J. Ames, Oakdale.

REG. JERSEYS—Herd established 1868. Young bulls from best cows. Rancho Dos Bios, B. 2, Modesto.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED GUERNSEYS—Both sexes for sale. Mrs. Charles G. Lathrop, Stanford University, Cal.

REGISTERED HOLSTEINS—A. W. MORRIS & SONS, Corp., Importers and Breeders, Woodland, Cal.

REGISTERED HOLSTEIN BULLS from A. R. O. dams. J. W. Benoit, R. 2, Modesto, Cal.

GREAM CUP HERD—Registered Holsteins. Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED JERSEY CATTLE—Young stock for sale. W. J. Hackett, Breeder, Ceres, Cal.

PELANDALE HERD of Reg. Holsteins. Young bulls for sale. J. A. Pelanda, Balida, Cal.

SUNNYSIDE HERD—Registered Holstein cattle. R. F. Guerin, R. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma.

A. R. O. REGISTERED HOLSTEIN BULLS for sale. Millbrae Dairy, Millbrae, Cal.

BREEDERS OF REGISTERED HOLSTEIN CATTLE—McAlister & Son, Chino, Cal.

BREEDER of Registered Holstein Cattle. Ernest Otto McClure, R. 2, Modesto, Cal.

LINWOOD FARM—Registered Holsteins and imported Guernseys, Santa Cruz, Cal.

N. H. LOCKE CO., Lockeford, Cal.—Choice young Jersey bulls for sale.

PACKWOOD FARM HERD for Holsteins. W. F. Mitchell, Visalia, Cal.

HORSES AND MULES.

PURE-BRED Registered Percherons—A few choice young stallions two years old; also two, three and four-year-old fillies, majority in foal, for sale. Los Altos Stock Farm, Los Altos, Cal.

FOR SALE—Prize-winning Shetland Ponies. Selling out. Priced worth the money. Maurice Bucker, Fair Oaks, Cal.

BEEF CATTLE.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Shorthorns. Villager and Avondale strain. Yearling bulls for sale.

HOPLAND STOCK FARM—Registered Short-horns. Prices on application. Hopland, Cal.

SIMON-NEWMAN CO., Breeders of registered Herefords. Newman, Cal.

TWENTY Shorthorn Bulls from Nebraska. G. A. Murphy, Perkins, Cal.

SWINE.

I HAVE ANOTHER CROP of seventy-five head of **Big Type Poland China Boars**, born in February, sired by Iowa Wonder, who is a son of **A Wonder, the Greatest Poland China Boar, Living or Dead.** Iowa Wonder is in the **1000 lbs. class.** One of his sons from one of my good registered sows should make you money. I will sell the best first. On account of being overstocked will sell them at $20 each while they last, but they will not last long at this price, so act quick if you want an extra good boar for little money. Geo. A. Smith, Corcoran, Cal.

REG. BERKSHIRES—Fine 3 months old pigs, both sexes, by Panama Lee, Gold Medal Winner at 1914 State Fair. Also bred sows. C. E. Barrows, Los Molinos, Cal.

BLATGHFORD'S PIG MEAL weans easily and safely; no trouble; no milk. Write for free folder. "The Safety Route from Pighood to Porkage." Coulson Co., Petaluma.

REGISTERED, PUREBRED BERKSHIRE PIGS—(Weanlings) both sexes. Reasonable prices. Write for full information. J. E. Hall, Sebastopol, Cal.

BILLIKEN HERD of pedigreed O. I. C. Swine; weaned pigs of both sexes ready for immediate shipment. Pairs and trios mated, not akin. All from big type stock of extra heavy bone. Immunized against hog cholera, crated and registered free. Write for descriptive circular and price list. C. B. Cunningham, Mills, Sacramento County, California.

BLUE-RIBBON HERD DUROC-JERSEY HOGS—Bred Gilts a specialty. 15 bred now. 20 ready to breed. Sires and dams win all blue ribbons 1912, 1913, 1914 State fairs. 15 first, 13 seconds, 6 thirds, 7 fourths, 1 fifth. Will show 1915. For prices, write John P. Daggs, Modesto, Cal.

BERKSHIRES—Headed by Bandmaster 2nd, junior champion Iowa State Fair. My females were winners at Iowa, Wisconsin and Minnesota State Fairs. Farm at San Mateo. Address W. M. Carruthers, 218 Hearst Bldg., San Francisco.

REGISTERED POLAND-CHINAS—Prize-winning Nebraska stock. Large type. Young pigs for sale. Absolutely guaranteed. Hale I. Marsh, B. 4, Modesto, Cal.

BERKSHIRES—Bred sows, service boars and young pigs. Brae Bourne Ranch, B. 3, Box 172, Santa Rosa, Cal.

REGISTERED BERKSHIRE SWINE—All ages, for sale. Grapewild Farm, Mayhews, Sacramento, Cal. A. B. Humphrey, Prop., P. O. Box P.

25 POLAND CHINA SPRING BOARS—Jan., Feb., March farrow. Prices, registered and crated, $20, $15, $10. Edwd. A. Hall, Watsonville, Cal.

DEL DAYO FARM—(Old Haggin Bottom Ranch)—Breeders of Registered Berkshires, both sexes for sale. P. O. Box 1140, Sacramento, Cal.

PLAINFIELD STOCK FARM—Registered Berkshires and Durocs. Young stock for sale, both sexes. H. M. Bullard, Woodland, Cal.

REGISTERED BERKSHIRE SOWS and their weanlings. Quality, health and vigor. Boars, all ages. F. H. Wilson, Turlock, Cal.

GLENVIEW POLAND-CHINAS—Baby pigs from best families for sale. From $15 up. Chas. E. Hanna, B. 3, Riverside, Cal.

IMPERIAL STOCK FARM BERKSHIRES—Quality and price guaranteed to satisfy. B. J. Merrill & Son, Morgan Hill, Cal.

REGISTERED BERKSHIRES — Weanling boar pigs $10.00 each. A few older boars. J. M. Bomberger, Modesto, Cal.

BERKSHIRES—Utility and Choice Registered Pedigree stock. Correspondence solicited. C. H. Thompson, Novato, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassetti, Hanford.

REGISTERED DUROC-JERSEYS from Eastern sows. Six months gilts and boars. S. B. Southworth, Napa, Cal.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Duroc and Berkshire Swine. Weanlings for sale.

REGISTERED POLAND-CHINA HOGS—Cholera immune. W. D. Trewhitt, Hanford.

POLAND-CHINAS—Prize-winners. Money-makers. B. Bernstein, Hanford, Cal.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

POLAND-CHINAS—Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

POLAND-CHINAS — Prize-winners. Satisfaction or money back. Geo. V. Beckman, Lodi, Cal.

REGISTERED DUROG-JERSEY SWINE—Las Pedernas Ranch, El Cajon, Cal. M. S. Allen, Manager.

REGISTERED POLAND-CHINAS — Young stock for sale. Hewitt & Hewitt, Hardwick, Cal.

DUROGS—Weanlings and a few choice bred gilts. H. E. Boudier & Son, Napa, Cal.

REGISTERED POLAND-CHINAS and Duroc Jerseys. T. H. Beckman, Lodi, Cal.

KNOB HILL STOCK FARM—Registered Poland-China swine. A. M. Henry, Farmington.

READAKS RANCH herd of registered Poland Chinas. W. J. Hanna, Gilroy.

REGISTERED BERKSHIRES—Young stock for sale. F. W. White, Elk Grove, Cal.

BERKSHIRE BOAR PIGS—Butte City Ranch, Butte City, Glenn Co., Cal.

CHAS. GOODMAN, Breeder of high-class Berkshire Swine. Williams, Cal.

POLAND GHINA HOGS—Registered. E. J. Miller, Llewellyn Ranch, Lathrop.

DUROGS—A few bred gilts, boars and gilts left. E. C. Curtis, Napa.

REGISTERED O. I. C. SWINE—C. D. CONEY, Lakeport, Cal.

POLAND-GHINA HOGS—C. A. Stowe, Stockton, Cal.

SHEEP.

FRANK MEACHAM, Petaluma, California.—Breeder Shropshire, Rambouillets, American Merinos, both sexes. Take electric car at Santa Rosa or Petaluma for Live Oak.

SHROPSHIRE LAMB BUCKS—Yearlings and two-year-old rams for sale. J. R. Bloom, Dixon, Cal.

BULLARD CO.—Breeders and Importers of Rambouillets. Hanford, Cal.

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers, Shropshires.

MISCELLANEOUS.

OWING TO THE MANY requests of our customers to give them information as to where they can buy or sell dairy stock, we have established a livestock bureau in connection with our office. For anything in this line write us. V. A. Peterson Alfalfa Seed Co., Arbuckle, Cal.

FOR SALE—8 Holstein cows and heifers. 2 Percheron Fillies. All high grade or registered. Home grown, excellent stock for foundation breeding. Call to see them at the home place, Glenoak Farm of L. N. Irwin, Davis, Cal.

mal Industry of the Philippine Bureau of Agriculture has gone to India and China to secure breeding cattle for the Government stock farm, for which $12,000 was recently appropriated by the legislature.

Four young Devon bulls were recently purchased from the Carneal ranch of Alameda county by D. W. Wallis for Miller & Lux. These animals will be distributed to the various ranches of the company for the purpose of improving the strain of Devon cattle which they are cross-breeding with Durhams.

A meeting of sheep raisers of Sonoma and Mendocino counties has been called for some time in the near future by State Veterinarian Keane, in order to take action on the prevention of sheep scab and to prevent a sheep quarantine which seems probable at this time.

A butcher in San Joaquin county is buying sheep carcasses from the Western Meat Company at 10 cents a pound, while he has wethers of his own in the corral waiting to be butchered, but which would cost 15 cents a pound at the shop. This man says that sheep would be a fine game for all the small farmers who could get a few ewes.

Although the war stopped any importations of Australian mutton, which a year ago were feared would flood the markets here, it is probable that none would have been shipped here anyway, as the British Government was recently notified that on account of the drouth further importations of Australian mutton to England would have to be stopped, as every pound available was needed for home consumption.

On July 9 the first importation of foreign cattle entered the port of New Orleans. The shipment was made to the National Stock Yards at East St. Louis by the Raffety Cattle Co. of Guatemala.

Nine thousand head of sheep were recently purchased by H. Curtz and Frank Belcinige from a breeder in Grant county, Ore. The animals are now on the drive and are expected to reach Montague on Aug. 10, at which time they will be divided, half going to Sacramento and the other half will be ranged in Siskiyou county.

The Southwest Stockman-Farmer reports that a prominent wool grower of Kansas City states that he believes wool will advance 50 cents per pound before the end of the year. He also believes the exports of woolen goods from this country will reach a value of over $100,000,000 next year.



Segis Pontiac de Kol Burke

1st Prize 2-year-old Cal. State Fair 1914.

The bull that combines the blood of the greatest producing families in Holstein history. He is an outstanding individual, weighing 2200 at just three years of age. His dam RIVERSIDE SADIE DE KOL BURKE, is the heaviest milker that the breed has ever developed. She and six of her sisters have records above 30-lbs. butter in seven days.

A few sons of this sire are now available, some of which are soon ready for service. Several are from half sisters to Aralia De Kol, 30-lbs. butter in seven days at 12½ years, 28090 lbs. milk and 1142 lbs. butter in one year. Prices reasonable.

Pedigrees and Prices on Application.

A. W. Morris & Sons Corporation

Box 398-D, Woodland, Calif.

HORSES AND SWINE.

C. C. West of Tulare county is starting a stock farm on his ranch near Poplar. He now has 200 head of hogs fattening on 250 acres of wheat and 60 acres of alfalfa.

Experimental raising of hogs has commenced at Fairbanks, Alaska, the hogs to be fed small, unmerchantable potatoes which form an important crop there.

C. E. Williams of Sutter county has been appointed as agent for the representative of the Italian government to secure horses in that county for inspection.

A carload of horses was recently purchased in Alameda county by Hayes Bros. of Imperial Valley, who are said to be agents of the French Government.

Several head of purebred livestock from Ohio and Iowa and some Clydesdale horses from British Columbia will shortly be placed on the farm of the Washington State College.

In order to fight hog cholera and generally improve the condition of the swine industry in Madera county, the various farm bureaus are rapidly organizing swine breeders' associations.

A total of $4,000 is said to have been left in the vicinity of Fallon, Nevada, as a result of purchases made recently of horses and mules by one buyer from the French and English governments.

The Farm Adviser of Yolo county gets first-class hog cholera serum from Iowa at less cost for what is claimed to be better quality than he could get at the University of California.

MISCELLANEOUS.

A. B. Humphreys, breeder of Berkshire and Guernsey cattle, has removed his stock from his ranch at Mayhews to his property near Escalon.

The French Government has made arrangements with England to supply 231,107 tons of frozen meat between February, 1915, and February, 1916.

That the livestock industry is making rapid gains in the State of Queensland, Australia, is shown by the following figures: At the end of 1913 there were 707,265 horses, an increase of 32,692 over 1912; 5,322,033 cattle, an increase of 11,148; 21,786,600 sheep, a gain of 1,476,564; and 140,045 pigs, a decrease of 3,650.

What Yolo county boosters call the $50,000 bull calf will be shown at the Panama-Pacific Exposition. His dam is Tillie Alcartra, recently the world record cow, while his sire is Segis Pontiac de Kol Burke, whose dam is Riverside Sadie de Kol Burke. This makes him the offspring of two cows whose records average over 29,000 pounds of milk in a year, the only calf of such heavy producing ancestry in the world. He was dropped March 22, 1915, and is a beautiful example of vigorous calfhood.

Receipts at the Portland Union Stock Yards for the week ending July 19 were: Less than a thousand head of cattle; 2700 hogs; and 1200 sheep. In the cattle market, cow stuff took a top price of $5.75; steers $6.00 to $6.50; and a nice bunch of Southern grass-fed steers went at $7.00. The bulk of the hog sales went around $7.40 to $7.45. No change in prices were quoted in the sheep market on account of the small number received, though all lines are quoted steady.

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You will never make the profit you ought to from your cows until you feed them silage.

Corn makes the best silage, but any good forage crop will make good silage providing you have a good air and water-tight silo.

If you have any growing crop suitable for silage, now is the time to order your **IDEAL GREEN FEED SILO** and get it up in plenty of time to fill.

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Everything for the Dairy.

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Gas Stove Convenience with Kerosene

Cooks the Cooking Not the Cook

A good oil stove concentrates all its heat at the cooking point. That avoids an overheated kitchen and that means comfort for the cook even on hot, sweltering summer days.

New Perfection Oil Cook-Stove

For Best Results Use Pearl Oil

An oil stove brings the convenience of gas to homes without gas. No heavy fuel to carry. No dirt and ashes. And yet it cooks anything a big coal or wood stove does. It is clean, convenient, economical. No odor. Does not taint the food. Ask your dealer. See exhibit, Palace of Manufactures, Panama-Pacific Exposition.

STANDARD OIL COMPANY
(California)
San Francisco

Ration for Weaned Pigs.

To the Editor: What is a good ration for weaned pigs, with rolled barley, molasses, and alfalfa at hand? Some of my pigs lost their mother at two weeks old and were put with other sows, but they do not get the nourishment they should—barely an existence. What feed should I give them? What is the hog feed value of Muir peaches? Will all sized hogs do well on them? —B. L. B., Modesto.

[Answered by E. C. Voorhies, University Farm.]

[A very good ration for weaned pigs can be made from alfalfa hay, barley and molasses. Probably the best way to feed these ingredients would be to soak the barley in water and mix the finely chopped or ground alfalfa hay and molasses with it. If a good quality of alfalfa hay is available a ration may be mixed as follows: Three parts of barley and one part each of alfalfa and molasses, by weight. As much of this should be given in a slop with water as the pigs will clean up readily. The slop can be made thicker as the pigs grow older. A ration can be composed of the barley and the molasses in the same way as above, and alfalfa hay fed in racks.

When pigs lose their mothers at about two weeks old, it is probably best to take a sow that is just about to wean her litter and put the pigs on her. After the sow's own pigs are taken away she should be left alone for three or four hours and she will gradually wish to be nursed. At this time she will take the orphan pigs very readily and usually no trouble will result. This is usually the best way to feed such pigs.

It is impossible for us at the present time to give any definite information with regard to the feeding value of Muir peaches for hogs. It is, however, very probable that they should be handled as a great many hog growers do. They allow the hogs to run in under the trees and pick up what they like. It is advisable to feed some grain along with peaches in order to keep them in a vigorous and growing condition. They are liable to injure the trees by rubbing, but this can be avoided by driving three stakes around each tree.]

COTTONSEED MEAL AND ALFALFA.

[Written for Pacific Rural Press by E. C. Voorhies, University Farm.]

Cottonseed meal is a valuable feed when rightly used. In most sections of the country it is our highest protein feed and the cheapest source of protein for stock feeding. It is an excellent feed for milch cows and may be fed in large quantities (six pounds per head daily), apparently for any length of time; ordinarily only one to two pounds per head is fed daily with other concentrates; and this is, in general, the better practice, since heavy feeding of cottonseed meal gives the butter a hard, tallowy texture and raises the melting point of the butter fat, and decreases the percentage of volatile fatty acids,—in short, produces a low grade butter.

Cottonseed meal cannot be safely fed to calves or pigs, owing to the presence of poisonous principles in the meal. Recent investigations in the North Carolina station appear to show that the danger in feeding cottonseed meal to pigs can he overcome by giving them in their drinking water, for every pound of cottonseed meal eaten, for each 100 lb. pig, one gallon of a solution of iron sulphate made by dissolving one pound in fifty gallons of drinking water. No investigations have been made with the feeding of the iron sulphate in this State.

Wetting Alfalfa.—It is the practice in quite a few dairies to sprinkle alfalfa hay with water when it is being fed to allay the dust. We are not aware of any harm that has come from this practice, as it is still being done in some of our dairies.

LICENSE SERUM PRODUCERS

[Written for Pacific Rural Press.]

Among the new laws which will go into effect at an early date is one to regulate the manufacture and sale of hog cholera serum, vaccine, virus, or antitoxin. The law provides that all such plants must be licensed and be subject to the supervision of the Director of the Experiment Station at the University of Califorina. The Regents of the University are authorized to collect a license tax of one mill for every cubic centimeter of serum, vaccine, virus, or antitoxin sold or distributed. The law was proposed to protect swine raisers against manufacturers who prepared any of the above products in an insanitary manner, thus jeopardizing the swine industry of the State.

HOW ONE STALLION MADE GOOD.

[Written for Pacific Rural Press.]

The saying that "A prophet is without honor in his own country" applies in a way to a fine Belgian stallion which is being used in one section of the State.

Some three years ago, this horse was sold to two brothers, the stallion at that time being young and in the pink of condition as most stallions are when offered for sale.

The brothers developed more of a fondness for John Barleycorn than they did for the proper care of their horse and besides blinding him in one eye with a pitchfork while in a fit of anger, decided that money spent for bad whiskey was better than for horse feed with the result that the horse became so poor in body that he no longer commanded the respect of mare owners.

Last winter the horse's former owner came around to collect some of the money owing on the horse, but instead of getting any he found the brothers broke and the horse in deplorable condition. Again assuming ownership of him, the salesman sold him to another farmer in the vicinity for $500 with the understanding that he could have four years to pay for him and nothing down.

The new owner took the horse home and immediately began to feed and care for him, with the result that when the spring season commenced, the horse was back to normal condition except for his one eye.

The insurance fee for mares was set at $25 and the mare owners who previously refused to breed to him have changed their minds to such an extent that the horse has had all of the work he could do all season and will pay for himself this year. His new owner says that he makes a fine farm work horse when not in use for breeding purposes and thinks he has the laugh on many an older farmer who saw lack of flesh rather than quality of bone and conformation in the stallion. Many a good stallion's services are lost to the State for lack of flesh and bloom. This defect should be bred out of our horse selling and buying system.

SWEET POTATOES THROUGH MARCH.

To the Editor: We planted about 200 sweet potato plants in the spring of 1914 and dug about 400 pounds of potatoes. We were told they would not keep long so we sold most of them.

For potatoes for home use, we secured real dry river sand and buried them in sand in a barrel, first putting in a layer of sand, then a layer of sweet potatoes, not touching each other. We used as we needed them and found a few rotted. On Mar. 29, we emptied the barrel and found about a bucket full of as fine potatoes as one could wish.

Fair Oaks. Geo. E. Fetters.

Tasmania, Australia, shipped not less than 2,000 bales of wool to the United States this season.

HORSE OWNERS! USE GOMBAULT'S CAUSTIC BALSAM.



A safe, speedy and positive cure The safest, Best BLISTER ever used. Removes all bunches from Horses. Impossible to produce scar or blemish. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O

"DOG DAYS" the best time to buy a DE LAVAL SEPARATOR

THERE was never before as good a time to buy a De Laval Cream Separator as **right now.**

The "Dog Days" are at hand when dairying is most difficult without a separator and when the increase in quantity and improvement in quality of cream and butter are greatest through the use of a good separator.

Then there is the great saving of time and labor, which counts for more in summer than at any other season and often alone saves the cost of the separator, aside from all its other advantages.

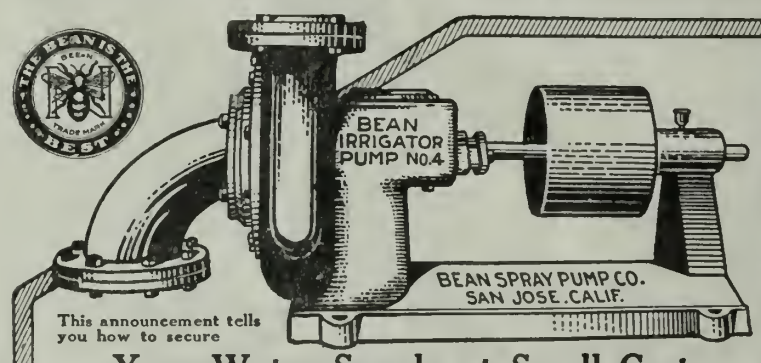
This is likewise the season when De Laval superiority counts for most over other separators,—in closer skimming, larger capacity easier running, easier handling, easier cleaning and absolute sanitariness.



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De Laval Dairy Supply Co.

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Your Water Supply at Small Cost

At last—a high-grade, efficient, dependable centrifugal pump at a low price. The Bean Irrigator introduces a new standard of pump values. Though the price is as low as the lowest—the pump is "Bean quality" through and through. If you're interested in irrigation you should learn about

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For Downright Good Service They are Absolutely in a Class by Themselves

The Bean Automatic Water Balance eliminates end-thrust, thus saving much trouble.

The Bean Water Sealed Stuffing Box makes excessive tightening of the stuffing box glands unnecessary. The shaft where it enters the pump is entirely surrounded by water, which forms a perfectly air-tight seal with very little friction.

Bean Runners are Enclosed, accurately machined and perfectly balanced. This means greatest possible efficiency.

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It illustrates and describes the Bean line of Horizontal and Vertical Centrifugal Pumps, Bean Turbines, Direct Connected Outfits. etc. Tell us your pumping requirements. The experience of our irrigation specialists is at your command. For our general line of House, Windmill, and other Pumps, ask for Catalog 28-D. For Bean Opposed Gas Engines ask for Catalog 28-C. A postal will bring any or all of these catalogs by return mail.

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Whether intended for show or market, the hog attains perfect condition and more quickly and economically if his ration includes some DIGESTER TANKAGE. The growing pig needs DIGESTER TANKAGE as a bone and muscle builder. Write for free pamphlet on hog-feeding.

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Short Horn Bulls

7 Choice Registered Tuberculin-tested Short Horn Bulls, aged 14 to 20 months. If interested, write or call immediately.

H. L. MURPHY, PERKINS, CALIF.

Mixing Cow Feed Thoroughly.

[Written for Pacific Rural Press.]

"A cow ration is needed simply to keep the cows in good condition," said a dairyman of high standing. He was feeding purebred cows a ration made by mixing 200 pounds of ground mixed barley and oats grown together, 100 pounds bran, 100 pounds fine ground corn. The heavy milkers receive about a pound of this mixture per five pounds of milk. When the milk fell below 25 pounds a day, the ground feed was withdrawn and the cows dried up.

Heavy milkers need concentrates because they can't hold enough alfalfa to make the 60 pounds of milk a day which many cows average early in lactation. Alfalfa, however, is fed as much as the cows want.

Mangels also are fed all winter, the Golden Tankard and Red Mangels being used mostly. The Reds are larger, but the Golden Tankards more solid. These mangels are left in the ground until ready to be used because they keep much better that way.

Cows are not turned onto pasture at all because it is a waste of valuable land, and because there is not always feed or water enough handy. In such cases, the cows must be driven to grass and to water; and especially during hot weather, the milk fails on this account. Cows drink more water if it is "under their noses," and this is the only legitimate way of watering the milk.

Mixing the concentrates is simple, but seldom done right. This dairyman has to teach the mixers how to use it. Each different kind of feed is spread out on a smooth floor, one kind on top of the other in a broad, shallow pile. Then it is turned over by running shovels along the floor under the outer edges and turning each shovelful entirely over so that there is always an open space between the unmixed and the mixed feed, finishing as a hollow circle of mixed feed. It is then turned back to the center in the same way, always running the shovel along the floor, and finally turned a third time, when it is a uniform enough mixture so that each cow gets the same ration as the rest and the same ration every day. This is very conveniently carried down the center aisle between the cows in a cart balanced on two wheels.

WALLING-OUT GOPHERS.

To the Editor: Have any of your readers any practical method to suggest for keeping gophers out of alfalfa? I have between three and four acres in alfalfa which has been planted for five years. I am forced to rely on a sprinkling system with network of pipes as the land is gravelly and porous and it is impossible to flood to drown the pests. I have had a fairly good stand each year and make about five cuttings—but in spite of cats and traps the alfalfa is riddled with gopher holes, which are getting worse each year and destroying the roots. I have thought of a proposition to put a rock and cement wall around the alfalfa field going four to six feet deep and two feet above ground. Can gophers go deeper than this? There is plenty of rock on the place and cement is not so expensive if we do the work ourselves. Has this ever been tried?—An Old Subscriber, Los Gatos.

[You will surely gain no gophers to speak of from the outside if you build such a wall, but it will be fiercely expensive in digging and masonry even if you do all the work yourself. Gophers do not go as deep as four or six feet unless they choose to dig wells and they have such juicy food that they can get along without wells better than squirels probably. We cannot find record of any extreme depth found by those who have studied burrows by abundant excavation, but they are said by all investigators to be shallow and only a little deeper for housing purposes. Our opinion is that few if any would dig under a wall half the depth you mention. They do surface running at night, but common opinion is that a one-foot barrier would stop that. We therefore believe if you build one foot above ground and two feet below you will practically have them shut out. If any readers know differently we shall be glad to hear it.

You can also protect your place very largely by digging a ditch with vertical sides two feet deep all around it and keeping that ditch open. Dig the width of a coal oil can and bury cans even with the bottom of the ditch at intervals of 25 feet. Digging gophers will take headers into the ditch, run along the bottom of it until they plump into the oil cans, from which they cannot climb out. Such pitfalls have been considerably used and captures of gophers by the hundred have been reported. Cats have also been seen to help themselves from the cans—so you can have a combined ditch, can and cat system which will work automatically. If in addition to this protection you get the knack of using traps to catch those now inside the patch, you may get a little rest and more alfalfa.—Editors.]

MORNING GLORIES AGAIN.

To the Editor: How can we get rid of wild morning glories? They are taking the place; have plowed them under, still they come up. Grow mostly around the fruit trees. —E. S., Grass Valley.

[The best way we have found to get rid of morning glory among fruit trees is to plant alfalfa thickly and then keep it watered so it will not rob the trees. But we have seen orchards in which sections planted to alfalfa showed marked inferiority to the rest simply for lack of water. If water is unavailable, lay seige to the underground root stocks by which morning glories mostly outlive attacks. Rigid blockade of their food supplies by hoeing off the vines whenever they appear above ground, will eventually starve them into decease.—Editors.]

STOCK NOTES.

[From College of Agriculture, University of Arizona.]

How Many Sheep Per Acre?—Regarding the acreage of alfalfa required to feed a band of sheep, it would seem that seven lambs could be fed five months on each acre. The basis for this estimate is secured from the amount of hay required for feeding sheep and an estimated yield of about five tons of alfalfa hay per acre. It is possible that you have a heavier crop of alfalfa and that you could carry more animals, but I would place 14 as the maximum from May to October 1st.

Bot Fly Habits. — The sheep bot fly or grub in the head is caused by the gad fly's laying eggs, which soon develop into larvae and enter the cavities of the head where they develop, causing considerable annoyance to the sheep. The fly works from June to September and the larvae require some months to develop, so that you need not worry about them if you are able to secure sheep that are not affected.

Alfalfa for Pigs.—Alfalfa pasture makes an excellent food for growing pigs. It is estimated that seven pigs averaging 100 pounds can be maintained on an acre of alfalfa the year around, 12 to 15 during the summer only. It should be remembered, however, that alfalfa is too bulky for making good growth or fattening pigs and should be supplemented by concentrated feeds such as milo maize, corn, barley or shorts. It is not recommended to feed bran in conjunction with alfalfa hay as these feeds are very similar in composition and digestibility as well as in bulkiness.



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THORNTON S. GLIDE, Prop., Davis, Cal.

Breeders of

Short Horn Cattle

Shropshire and Merino Sheep

ATTENTION, SHEEPMEN.

My pure-bred, range-raised yearling Shropshire and Merino rams are now out of the mountains and ready for inspection at my place.

Shropshires sired by rams imported by me from England in 1911.

THE GUERNSEY

is popular among the dairymen who appreciate that Economical production, richness and fine flavor of products lead to larger profits.

Try Guernseys and be satisfied.

Guernsey Cattle Club.
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(Large Type)
YOUNG STOCK FOR SALE
(Both Sexes)
THE BROWNING STOCK FARM
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BLACK LEG
LOSSES SURELY PREVENTED by Cutter's Blackleg Pills. Low-priced, fresh, reliable; preferred by Western stockmen because they protect where other vaccines fail. Write for booklet and testimonials.
10-dose pkge. Blackleg Pills $1.00
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Use any injector, but Cutter's best.
The superiority of Cutter products is due to over 15 years of specializing in vaccines and serums only. Insist on Cutter's. If unobtainable, order direct.
THE CUTTER LABORATORY, Berkeley, California

Farm Poultry for Profit.

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

POULTRY TO KEEP GIRLS ON FARM.

Poultry farming is getting to be the modern way of keeping boys and girls on the farm. Diversified farming brings in cash during all seasons of the year, and the poultry side of the diversified farm pays in cash and a contented family.

The poultry side of farming calls for tact, industry, and good business sense. It is not a business for the dreamer; to succeed, the poultry farmer must keep his weather eye open at all times, not only keep it open, but keep it going over all things and conditions. If he does not, he will soon be one of those who put money into poultry instead of taking it out of poultry.

To get money out of poultry one should have something to sell all the time; keep up a constant circulation and that keeps life in the business. The "blood may be the life"; but if it does not circulate, it's dead, and that is the way with the profits from poultry; if the circulation stops, the profits stop, and the business is dead. It is the poultryman's business to keep it moving, and the farmer who has a little ground to grow his own green feed can keep it moving pretty strong, if he uses judgment and is industrious. There are so many ways of doing this, especially if he happens to live near a city, that it almost looks needless for me to point out any particular ones.

A motorcycle may be used to drum up trade in a near town as mentioned on another page.

Selling Parcels Post.—The parcel post may be used for delivery if no other mode of delivery is handy, though in this case the shipper would have to be at some trouble in correspondence. I would like to see the parcels post on the same footing as the express companies so that the shipper could send C. O. D.

This would be a great advantage to the poultry farmer and purchaser both; it would save all guess work regarding weights, etc. If a customer ordered a chicken and stated what weight, about, and the chicken weighed, say, half a pound over, the parcels post weight would be satisfactory and he could pay on delivery. We are surely big enough a nation to have a full-sized parcels post, and taking it for granted that we have a Poultry Commissioner now, let us all whoop her up for a bigger and better parcels post.

Anything that helps the farmer helps the country at large, and if the farmer had not been too blamed independent in the past we all might have had better systems of marketing our produce than we have now. But we are improving in all ways on the farm, work is more evenly distributed, as a rule, though there are some of the old stock quite hidebound yet.

One thing is sure, though, if the poultry farmer is hide bound his pocket book will suffer. Up to date methods of business must be practiced or you fall behind in the procession.

Poultry to Keep Young Folks on the Farm.—The young folks of today need a business education before going adrift in the world and there is no more practical way of giving them one than to start them up in a business of their own. A few good fowls and a plot of ground turn the trick, and your boy or girl will learn more real business by conducting it themselves than they will by studying books. Every boy and girl is a natural trader; it's born with them, or why do they start shop with a bucket of sand and a few pieces of treasured paper they sneaked out when mother was not watching?

I know a girl that was bound she would leave home to work in the packing houses; she wanted money that she could call her own; and if she spent it foolishly no one would be the loser but herself. Her mother being a sensible woman took my advice and bought the girl some turkeys. Now she is the most contented girl, happy and cheerful all day long, because she has something to interest her both physically and financially. She is making money, because she seems to have a knack for selling at the right time.

That is one feature of the poultry business we don't all have—the knack of knowing just when to let go and when to hold on. And sometimes this is the dividing line between profit and loss. It requires judgment and a keeping in touch with the cost of feed, market prices, and local demands. A few drones soon eat the honey the workers have made so that this is one feature of the business of poultry farming that must be acquired if we are to make a profit. Watching the leaks, that in themselves do not amount to much, yet when let run into many little driblets soon make a stream of no small size, is all a part of the business, always remembering that it is easy to put money into a business, but requires ability to take money out.

FALL HATCHING.

It seems to me that the question of fall hatching needs more light. I have several times written on this subject during the past years, but found that very few became interested, except the large poultry ranches. They do, most of them, arrange so as to get out one good hatch about October.

Mr. Croley apears to think I am opposed to fall hatching, but that is not so; I merely gave the principal reasons why breeders do not advertise fall hatched chicks. And the reasons are, of course, based on profit. When eggs are running from thirty to forty cents a dozen it does not stand to reason that the hatcher can sell chicks much under double the price he sells for when eggs are twenty to twenty-five cents a dozen. I have hatched and raised chicks in every month of the year, but I much prefer some months to others.

Chicks Grow Faster.—Now in regard to the growing of fall chicks, if they are given proper care and shelter I think growth is really faster than at some other seasons. One reason is that, as a rule, they are sure of plenty of tender green feed, for the fall and winter months are the best growing seasons for orchard grass and vegetables. Also I believe the chicks can be raised at less expense, because during those early winter months the grain and mill products are usually a little cheaper. This naturally offsets the extra price paid for chicks or eggs and one evens up the other. But in localities where heavy fall and winter rains come, the chicks must be kept indoors or wet feet are liable to bring cold and roup.

It is simply a matter of preparedness. I hatched chicks one year in Sonoma county in December and raised them in outdoor brooders of home manufacture. But I would not advise anybody else to "go and do likewise," for that was a chore I never wanted again. Along in the night I would hear the patter on the shingles, and although I had left the chicks safe for the night, I could not believe they were safe unless I went out to see. And sometimes it got to be nearly a case of swimming to those chicks, but I always went.

Make Good Layers.—In my opinion the one great feature, and I think it is the only feature, about late hatching that is really worth considering, is this: By hatching during September and October you get eggs from hens that are proven good layers; the poor layers have quit the game and are using up their energy to make feathers, while the best layers are just laying eggs and putting in a little of the surplus to feathers. Now this is the only sure method of building up a winter-laying strain of pullets.

When fall comes those pullets and hens, after about three generations, will naturally get down to laying because they have lost the seasons. They are like a mariner without a compass; they get turned around and decide that its spring anyway. And to get chicks from hens that have been bred into the winter laying habit is really the only excuse for fall hatching; otherwise the profit is only on a par, considering price of chicks, with spring or summer hatched chicks.

Give Chicks Good Care.—There is just one thing to remember in fall hatching: that unless the chicks are given good care they will not attain the size spring chicks do, because the growing season is shorter owing to early maturity. Geo. Northrupp, the big Minorca breeder, says he prefers to hatch Minorcas for profit during July, August, and September. He claims the gain in maturity is over two months and that they grow better during August and the early fall months than in the spring. This statement requires a little stretch of the imagination because nobody can fool nature quite so easily, and spring is nature's growing season. Even babies born in the spring months grow easier than those born at other seasons. But it is a fact that all breeds of poultry can be brought to earlier maturity by fall hatching, though it is often, as stated before, at the cost of size.

When we start in to investigate a thing it should be looked at from all sides; it is very easy to create a little enthusiasm on any subject, but it is not everybody that can piece a thing together and analyze it in parts.

Providing the right man or woman gets good fall-hatched chicks and is

California Poultry Practice

Written to Teach Better Poultry Methods on the Farm.
By Mrs. Susan Swaysgood.

Every poultry raiser of California should have this book. It is very practical and will help make your business profitable. In the preface of the book the author says:

"This book is not an accident; it is born of a desire to help others to avoid the stumbling-blocks in the poultry business, and at the request of many readers of The Pacific Rural Press, and other papers.

"With forty-two years of experience with poutry it is expected that I have learned a few things about it; it's a poor business that does not teach lessons in that length of time. Don't you think so?

"There are books, yes, books without number, on poultry matters, but many of them are mostly theory. This book tells you just what I have done and how I would do it.

"It is a book of action, and it is action that counts these days. We have to act in the living present if we want to live. I want to live and I want others to live, too, and as I have learned these things by experience it is fitting that I should tell others how to obtain results without paying such a big price for the experience.

"The things told you in this book are original, unorthodox, but strictly practical; and if you will read and then heed, you will be well satisfied that the author has given you your money's worth. California is an empire in itself, and I am sure there are enough men and women engaged in the poultry business, or wanting to get into it, to call for a million copies of this book, though its only claim is that it is needed."

The book contains 157 pages, besides illustrations. The 45 chapters cover every phase of poultry culture from eggs to hens, and from hens to market. Feeding, housing and parasites.

Price, cloth-bound, postpaid, $1.00.

Pacific Rural Press, Publishers

525 Market Street, San Francisco.

HOPLAND STOCK FARM
HOPLAND, CAL.

Standard Bred S. C. White Leghorn Cockerels, selected for Breeders. **Four months old, $12 per dozen; Yearling Hens, $12 per dozen.** Standard Bred White Plymouth Rock, Fishel and Owen Farm Strains **Direct.** Hens one and two years old $18 to $24 per dozen. Four to five months old pullets, $18 per dozen. Selected Cockerels and Cock Birds, $5 each and up.

prepared to shelter them right, they need not fear not coming out even; but if they are just going to raise them haphazard they will be money in pocket to leave them alone. Leghorns hatched in September will commence to lay in March without any special effort, if they are fed right and sheltered right all the time; Minorcas, I should judge, will commence in late March or April, and once they start will keep it up as long as they are fed for it. They will molt early and get down to laying again before the rest of the hens think about it, or they will follow the example of the hens they came from and lay late in the fall without molting. The latter is the more natural method for them and if fed right it is exactly what they will do, but change of feed, of environment, and many other things sometimes change the natural course of things and stops hens laying for a few days, thereby changing conditions.

One other idea comes to mind and that is that the cockerels even of Leghorns are a welcome addition to the market caterer coming at a time when there are few to compete, hence the price has been known to run as high as thirty-five to forty cents a pound.

Hatch Chicks This Fall.

[Written for Pacific Rural Press by Geo. H. Croley, President Federated Poultry Ass'n of California.]

The number of letters and inquiries we are receiving indicate that fall hatching is being considered by a very large number of poultry keepers who have never attempted it in the past.

Clarence Johnson states that he has been very much pleased with results from fall hatching of Plymouth Rock chicks, but has been able to set only a few eggs at the time owing to the difficulty he had to get eggs in the fall from the greater part of his flock; only the most gentle hens could be depended on to lay at that season and there were only a very few tame hens in the lot. He wants to know how to get more eggs in the fall.

As Plymouth Rocks are naturally inclined to be gentle and tame, Mr. Johnson's fowls were evidently raised under conditions that developed unusual nervousness and a disposition to be wild or suspicious, and easily frightened.

Fright Stops Egg Development. — It is absolutely necessary to always keep domestic fowls gentle and tame if an abundant egg yield is expected at any season and this applies with greater force in the fall than in the early spring. When subjected to fright or any unusual disturbance, the laying hen is checked almost at once. The fright and excitement not only checks the completion of eggs just forming, but actually causes the hen's systems to absorb partially completed eggs. This disturbance usually sets back the forming and laying of the first egg of a new series for a period of a few days to several weeks. Is it any wonder that some well-fed hens, bred from heavy laying strains, produce a limited number of eggs during the year and only a very few or none at all in the fall?

Scared Chicks Become Eggless Hens. — We recently received a report regarding a poultry farm that had been unprofitable. It was well planned, provided with good houses and stocked with chicks selected from heavy laying and vigorous strains. As chicks and matured fowls, they were given sufficient attention and ample and proper feed, still the egg yield was so poor the plant was run at a loss.

The only real cause for the lack of eggs was the disposition of the fowls. They were nervous and suspicious, expecting trouble at all times. They scooted for a hiding place when a small bird flew over the yards, or the wind disturbed a few dry leaves, and even on the approach of their keeper.

On inquiry, it seems this keeper was very proud of the manner in which he could "boss" his little chicks and cause them to go into the brooders in the evening and during the day when he wanted them out of his way when entering the brooding house to clean, feed, or water. He would wave his hat in the air and let out a war-whoop which sent them racing into the brooders, where they hovered in fright until he disappeared. It is practically impossible to raise a gentle hen from a chick treated in this manner. This man evidently missed his calling; he would make a star performer in a Wild West show or a good captain of a Jack rabbit drive.

Gentle Leghorns' High Average.— We also have a report from Chas. Blom, who has had many years of experience with fowls at Napa and strives to keep them gentle. He is highly pleased with an importation of White Leghorns from Tom Barron. Mr. Blom says in part: "The six hens and two cockerels arrived October 3, 1914; the first egg was laid Oct. 17. One hen died the last of November after laying 17 eggs and the remaining five laid up to July 20, 707 eggs in nine months, an average of 141 eggs each. Of this number, 95 were produced in November.

"Another good feature is the gentleness and good behaviour of the fowls. Even the males are easily cared for. I have males of various ages running together in one enclosure, but there is scarcely any scrapping. We trap-nested a pen of pullets hatched last winter from eggs laid by these five Barron hens. Eight of these pullets, in the 50 days from June 1 to July 20, laid the following number of eggs: 44, 41, 39, 38, 35, 35, 34, and 33."

Mr. Blom's experience emphasizes the importance of keeping the hens gentle and tame, and proves that fall-hatched pullets are excellent egg producers.

TURKEY RAISING.

To the Editor: I find it best to use chicken hens for turkey eggs. I have the best luck with Buff Orpington hens, but any large quiet breed is good. I usually put six to eight eggs under each one; and as soon as hatched keep them where nothing can trouble them. They do best in a grain field or high weeds. Have coops or a box to roost in. Keep them clean and warm. I usually set mine about June 1. They can't stand the cold, and if too many are under one hen, they crowd and smother. The first week I give them twice a day one hard boiled egg rubbed together with as much corn meal as it will take up for six—plenty of chopped greens all the time. From that time on I just give curd mixed with coarser corn meal, only as much as they will clean up at once. After that they are no trouble. When they are about a week old the lower wing feathers fill with blood and have to be pulled out; that takes their strength and causes them to droop.—Mrs. F. S. C.

Classified Advertisements.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

WANTED.

WANTED—About seventy-five young men and women to enter the WESTERN NORMAL on August 30th, to prepare for teaching. Western Normal graduates secure and hold good positions. We assist graduates to secure good positions and promotion. We save you time and money. For information address, WESTERN NORMAL, J. R. Humphreys, Principal, Stockton, Cal., Box 704.

WANTED—LADIES to act as our agents in every community, to introduce the SUN FRUIT PRESERVER. Successful everywhere. Makes delicious sun-rayed strawberries, jellies, marmalades and fruits without fuel. Every home should have a SUN FRUIT PRESERVER. Good commissions paid. Full particulars sent on request. Write now to E. E. Dow & Co., Redlands, Calif.

WANTED—Ranch foreman (married) for farming subdivision in San Joaquin Valley. Must have knowledge of irrigation and stockraising. Address, stating age, experience and references. Also state size of family, and salary received in previous positions. Box 70, Pacific Rural Press.

WANTED, SHEEP SUPERINTENDENT, thoroughly experienced, to manage several thousand sheep in California. Must speak French or Spanish with some fluency. State age, experience, size of family, if married, and salary hertofore commanded. Box 69, Pacific Rural Press.

EXPERIENCED RANCH FOREMAN and mechanical milker wants position as either or both. Has had practical experience in ranch development of nearly all lines. Young. Married. References. Address Box 51, Livingston, Cal.

WANTED—Experienced, practical cattle man to manage large number of cattle in Central California. State age, experience, whether married or single, and salary heretofore commanded. Box 66, Pacific Rural Press, San Francisco.

GOOD TERRITORY open for agents or fertilizer salesmen in California to handle Radio-active-earth (Radium residue) for mixing with fertilizers. A. M. Wells, 633 Van Nuys Building, Los Angeles, Calif.

WANTED CATTLE FOREMAN of experience to take charge of several thousand cattle central part of state. State age, size of family, if married, salary heretofore received. Box 68, Pacific Rural Press.

WANTED—Farming foreman of thorough experience to take charge of large farming operations. State salary received heretofore, age and size of family. Box 67, Pacific Rural Press, San Francisco.

WANTED—Dried fruits, nuts, honey, beeswax, beans, etc. J. E. Lawrence, 326 Clay St., San Francisco.

MISCELLANEOUS.

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The Home Circle.

KATIE'S ANSWER.

Och! me Katie's a rogue, it is thrue,
But her eyes, like the skies, are so blue,
An' her dimples so swate,
An' her ankles so nate,
Shure she dazed an' she bothered me, too.

Till one morning we went for a ride,
Whin, demure as a bride, by me side,
Like a darlint she sat,
With the wickedest hat
'Neath a purty girl's chin ever tied.

An' me heart, arrah, thin, how it bate!
For me Kate looked so tempting an' swate!
With cheeks like the roses,
An' all the red posies
Ye'ud see in her gardin' so nate.

But I sat jist as mute as the dead,
Till she said, wid a toss of her head,
"If I'd known that today
Ye'd have nothing to say,
I'd have gone wid me coosin instead."

Thin I filt meself grow very bowld,
For I knew she'd not scold if I told
Uv the love at me heart,
That ud niver depart
Though I lived to be wrinkled and owld.

An' I said: "If I dared to do so,
I'd let go of the baste an' I'd throw
Both me arms round yer waist,
An' be stalin' a taste
Uv thim lips that are coaxin' me so."

Thin she blushed a more illigant red,
As she said, without raisin' her head,
An' her eyes lookin' down
'Neath their lashes so brown,
"'Ud ye like me to dhrive, Mister Ted?"

—Judge.

SOLOMON AT ALKIRE RANCH.

[Written for Pacific Rural Press by Geo. A. Alkire, Glendale, Ariz.]

Like most folks, we admired pea fowls and had to have one, so awaited our time till Old Solomon and his wife the Queen of Sheba came along. They were a fine pair in every way.

We kept them shut up for about a week, according to instructions. After being let out, Old Solomon took his wife and inspected the place thoroughly, calling on the neighbors. The first place he hit was where an Irish policeman lived on sick leave, who had been raised in the city and was not acquainted with country life. Solomon flew up an umbrella tree and let out a few calls; and, of course, all the chickens and feathered flocks fled under cover and stayed there. The policeman came out; and thinking it was a hawk, got his pistol and shot Solomon, breaking one leg and a wing. He brought him home—a sorry object; but we patched him up and after a time he was as good as new. He had a rather "step and go fetch it" gait, as a result; but he never ran off again.

When the new chickens began to come, he was a regular torment, pecking the hens, quarreling with the setters, taking the little chickens up in his beak, and whirling them around. Wife got on the warpath once, and grabbing a buggy whip stood on his tail and gave him what he needed. After that, he was a good bird among the chickens.

He would strut around and show off his plumage to the guineas, turkeys, mules, horses, cows, and all the corral folks. He was a constant terror to the mules in harness and teams that came in from the outside. Then along in August when his plumage started to fall out, we would catch him and pull the feathers; and he was so ashamed of himself that he was conspicuous by his absence, only coming into view to eat or drink. However, the new feathers soon made their appearance and he was busy fixing and working at them until they were all out again.

During the time the Queen was laying and setting, he was so busy strutting that he was very much entertained. But when she hatched out the young poults Old Solomon was wild. He ran all over the ranch, calling, spouting, fighting all the dogs and cats he could get at, and acting as if he was the "onliest" daddy on earth. However, the excitement wore off in about a week, and then he went back to his strutting again. Callers at the ranch were his special delight, and he was the source of much envy from the ladies that visited the place. At times it looked as if his plumage would be wrecked, but we managed to have a few feathers on hand most of the time to supply their vanities.

The feathers were a means of revenue; some people who visited would often write for feathers to trim their hats and clothes. The young have also been a means of income to us, finding ready sale at $10 to $15 per pair. Many times they wanted Solomon, but he was one thing that we would not sell—he was part of us.

The night was never too late or too stormy for him to greet us with a "Yeow Moo" when we were getting home; he was always interested in everything that was going on, or new or strange things moving on the ranch; and a stray dog among the sheep was a very serious affair. He would keep up his alarms until someone made an appearance; then his duty was done and he would shut up. A fish stranded in the irrigating ditch was the source of greatest concern to him, and he never got used to things being in the water.

He had some notions of his own; would get in a mix-up with the guineas and would fight as many as fifteen at one time. He surely was busy while it was going on, but usually gave them all they were looking for before they got through. Some of the younger turkey gobblers would take a whirl at him, and then there was something doing. They soon got enough of his sure, sharp beak; and his aim was so true they got a mighty bloody head and a good drubbing. One good peck soon satisfied the ganders that Solomon meant what he remarked about them, and they were very respectful after that. He seldom mixed with the young pea fowls; was a hermit in habits; though he would show them how to strut and preen their feathers.

When a bright plow was brought in from the field, he would spend hours fighting that other pea fowl; and a new milk can was much worry. He would walk miles around it until some one would take pity and put an old sack over it and save his energies.

He took his food where he found it; he always knew where the best corn, wheat, or milo maize came in, and we could rely on his judgment as to when it was cured right. He would pick it over and if it was not up to his standard, he would shake his head and walk off with such a "don't care," discouraged look that 'twas always worth going some ways to see.

When he had full plumage, he always had some pertinent remark about the condition of the weather; and was a pretty good prophet withal, though sometimes slow with his rain talk.

He always knew where the early



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figs came in and got about as many as we did of the first crop. The later ones he did not care for. He selected the finest peaches and plums, and apricots were his joy. He was a good sampler, but always had such a dignity about it that one enjoyed him even if he did destroy some of the best fruit.

Strange dogs were a terror to him, and he always set up a trumpeting as soon as he spied one; and kept it up until they left. He joined in all the cat fights and was a leader for the chorus.

He had one special place to roost—on a high beam over the horse lot; and he was always at home after dark there. Sometimes a mischievous mule would try and browse off his plumage, then he would get up on the barn for a time.

In his later years he was slow about getting up in the morning; in winter he would get up on his perch some days till about ten o'clock, all humped up like an old rheumatic man until the sun came out good and strong, then he would get down and walk around so stiff and comical.

One of the mules had a playful streak the other day and struck him on the back. The poor fellow gave up the fight of life; he was fifteen years old, and we miss him much. One of our old friends has gone on.

WASTE WATER.

I frequently see on the places I visit in the country, that the water from the kitchen sink is allowed to run into an open drain and over the ground, making a foul-smelling mud-hole, and as is frequently the case, in danger of seeping into the well, which is usually close to the house.

We run our kitchen waste into a large barrel to which is attached a siphon made of one inch galvanized gaspipe. The siphon empties into a V trough, and is led to the vegetable garden, where the water spreads over the ground and is quickly absorbed. As the siphon acts automatically when the barrel fills up to the top, the barrelful is discharged every few days instead of every few hours or minutes, so that the ground does not become tainted if raked or forked over when dry.

I have also fitted the water trough in cattle yard with an automatic device consisting of a float, stop cock, and siphon, outside the yard, so that the animals cannot throw it out of gear. The object in having the siphon attachment is so that the trough can be tipped over and thoroughly cleaned out occasionally. Before I put this device in, the horses or cows would knock something out of line and the water would run over and flood the yard, and frequently empty the big tank before it was noticed. Now it fills up as the animals lower the water level of trough in the yard and requires no attention.—S. H., San Jose.

VEGETABLE COOKING RECIPES.

Cheese in Pepper Shells.—Scorch the peppers slightly in a quick oven or on a broiler over the coals; remove the skins; split with one careful gash; and remove seeds. Insert in each pepper a little ball of rather dry cottage cheese; fasten the opening closely with tiny toothpicks; dip the peppers in egg and fine crumbs; and fry in deep kettle of fat.

Broiled Peppers. — Quarter the peppers, seed, and remove veins. Broil over hot coals until edges curl. Serve at once with thin, browned slivers of bacon.

Pimento Potatoes. — 6 medium sized potatoes, ½ cup grated cheese, ½ can of pimentos, 1½ cups cream sauce, 3 tablespoons bread crumbs, 2 tablespoons butter, salt and pepper to taste. Boil, cool and slice the potatoes; add chopped pimentos, cheese, salt, and pepper. Turn in a buttered baking dish. Pour over the sauce, sprinkle with bread crumbs; dot with butter, and bake 20 minutes; serve hot.

Canned Peppers.—The peppers should be plump, fully ripe, and red. Cut off tops; take out seeds and white membrane lining. Lay in boiling water for 5 minutes or until skin may be pulled off easily; care should be taken not to break or tear apart. Drain, let cool somewhat, and pack in glass jars. Add one-half teaspoon of salt to each jar of peppers; fill jars with cold water; and place tops on loosely. Put jars in boiler with false bottom; add cold water half way up the jars (adding boiling water as it boils away); let water boil one hour. Remove to back of stove; allow the steam to escape; and close jar tops tight; let cool in water until next day, then repeat heating process, loosening jar tops at start. This is for pints; for quarts, boil a half hour longer on each day's cooking. Keep in a dark place.—Mrs. C. M. G., Dixon.

Pat—"Have ye christened yer new baby yet?"

Mike—"We have."

Pat—"And ph'wat did ye call it?"

Mike—"Hazel."

Pat—"Er'a, glory be to God; 223 saints to name yer kid after and ye had to go and name it after a nut!"—Ex.

"Johnny!" "Yes'm." "Why are you sitting on that boy?' "Why, I"— "Did I not tell you always to count one hundred before you gave way to passion and struck another boy?" "Yes'm, and I'm just sittin' on him so he'll be here when I'm done countin' one hundred."—Sacred Heart Review.

Hot Weather Pests

Ants One of the Most Aggravating Annoyances.

Hot weather means different things to different people, but it always suggests one very disagreeable thing to the housewife—and that is ants.

Ants are small and unassuming but they are busy all the time, and have an unhappy faculty of intruding themselves where they are not desired.

What could be more annoying than to have a mess of ants over-running the food you are about to serve your family or guests?

Women everywhere will hail with delight, therefore, the announcement that a simple remedy has at last been devised that will rid them of this plague forever.

A baker in Los Angeles, after much experimenting, devised a paste which not only drives ants out of a house, but keeps them out thereafter.

So great a demand was immediately created that it was necessary to put up this remedy for general use under the name of Kellogg's Ant Paste—which can be obtained at all modern grocers or druggists. Try a package today and watch the results.

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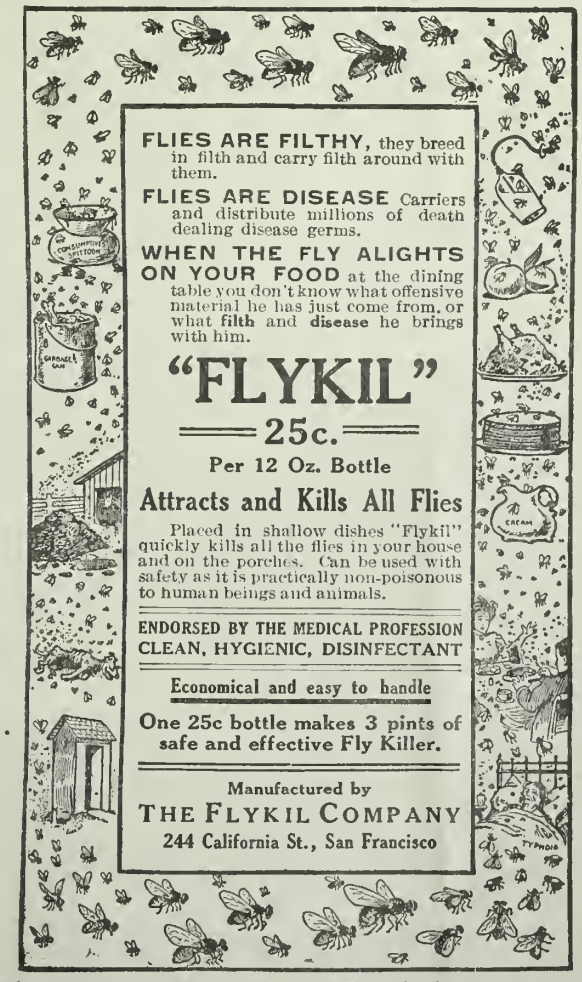
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CALIFORNIA POULTRY PRACTICE
By Mrs. Susan Swaysgood.
PACIFIC RURAL PRESS, Publishers.
525 Market Street, San Francisco, Cal.

The Markets.

San Francisco July 28, 1915.

WHEAT.

The wheat market has remained steady here and at other Pacific Coast points. In the east, after a downward movement in the middle of last week, it has advanced slightly and is now about as it was a week ago.

Cal. Club, ctl.	$1.80,	@$1.82½
Forty-fold	1.80	@ 1.85
Northern Bluestem	1.95	@2.00
Northern Club	1.80	@1.82½
Northern Red	1.75	@1.90

BARLEY.

The barley market is firmer again this week with prices showing up from 25 to 50 cents per ton higher for desirable feed and shipping grain. The trend of the speculative market locally has also been upward for several days.

Choice Feed, ctl. ...$1.17½@1.20

OATS.

While there is no change in the price of oats, the situation is firm in symapthy with the upward tendency in other grains.

Red Feed	$1.35@1.45
White	1.45@1.50

CORN.

All grades of corn are very firm this week, yellow grades being particularly strong. Transactions have not been active as stocks are small.

California Yellow	$1.80@1.85
Eastern Yellow	1.85@1.90
Milo Maize	1.75@1.80
Manchurian	1.40@1.60

BEANS.

The bean market has remained about stationary for several weeks; and nobody seems anxious to do business just at present. Advance information on the new crop is generally favorable. The speculative element has not yet manifested itself.

(On wharf.)

Bayos, Cal. per ctl.	$3.50@3.75
Blackeyes	5.50@5.65
Cranberry Beans	3.50@4.00
Horse Beans	2.25@2.75
Small Whites	4.00@4.15
Large Whites	3.75@3.90
Pink	3.15@3.40
Limas	4.00@4.15
Red Kidney	4.90@5.00
Mexican Reds	4.90@5.00

SEEDS.

(Wholesale prices, San Francisco.)

Alfalfa	17½@18½c
Brown Mustard, per lb	...Nominal
Canary	10 @12½c
Hemp	3 @ 3½c
Millet	2½@ 3 c
Timothy	7½@ 8 c

HAY.

Arrivals of hay for the week have been heavy, reaching up to 4800 tons; but as a single shipment to Australia this week amounted to 4000 tons, the net left here from these arrivals was small. The new crop has been moving into the market more freely than heretofore, though the bulk of the receipts are still of the old crop on previous contracts. The new crop so far as it has arrived shows up well, and is beginning to attract the attention of consumers. More active buying is expected to develop for city consumption about the end of the month. Prices are very firm on all lines, and have been advanced more or less on oat and wheat hays. Dealers report considerable of low grade hay seeking this market; but for this the demand is poor. While the price of alfalfa hay has not advanced, the market is strong and present prices are very firmly held. The yield of alfalfa is less than earlier reports indicated.

(On track, San Francisco.)

No. 1 Wheat, per ton.	$11.50@12.50
do. No. 2	8.50@10.00
Barley	8.00@10.00
Tame Oats	8.00@11.50
Wild Oats	6.00@ 8.00
Alfalfa	7.00@10.00
Stock Hay	5.00@ 5.50
Straw, per bale	.40@ .45

FEEDSTUFFS.

The market for feedstuffs seems to have eased off a little this week, notwithstanding the general firmness on whole grains. The weakness in various lines of meals is more pronounced; and in these prices are down about two dollars per ton. Cracked corn, rolled barley and rolled oats are unchanged as to prices.

(Wholesale prices per ton, carload lots, San Francisco.)

Alfalfa Meal, ton	...$14.00@15.00
Alfalfa Molasses Meal per ton	18.00@19.00
Bran, per ton	28.00@29.50
Oilcake Meal	36.00@38.00
Cocoanut Cake or Meal	24.00@27.00
Cracked Corn	41.00@42.00
Middlings	34.00@36.00
Rolled Barley	25.00@26.00
Rolled Oats	33.00@34.00

VEGETABLES.

There have been a number of changes in prices this week; and, as usual at this season, it is hard to tell one day what the prices for the next will be. With increasing supplies, the general tendency is downward. String beans are now quoted as low as one cent, and two and a half cents seems to be about the top price for the best stock. Some extra fine asparagus has sold as high as $1.75. Merced tomatoes are in better supply and are five cents lower all around. River lugs are down twenty-five cents. Eggplant is now selling at a ten-cent advance, and summer squash is scarce and higher. Lima beans are plentiful and are now quoted at five cents for the best.

(Wholesale prices, San Francisco.)

String Beans, lb	1 @2½c
Lima Beans	3 @ 5 c
Celery So., doz.	.50 @75 c
Lettuce, crate	.50@1.00
Asparagus, box	1.00@1.75
Peas, sack	1.25@2.00
Peppers, bell, bx.	60 @75 c
Tomatoes, crt. Merced	25 @35
River lugs	.50 @75 c
Rhubarb, box	.50 @65 c
Cucumbers, lug	.65@1.00
Eggplant, lug	.65 @85 c
Summer Squash, lug	.50 @75 c
Green Corn, sack	.75@1.50
Okra, crate	.75@1.00

POTATOES AND ONIONS.

Potatoes are moving rather slowly with more supplies coming in all the time. California growers are finding it hard to place their surplus stocks, and the market here seems to be about full of stock at the present prices. Garlic is a little easier, though the top price for the best stock is unchanged.

Burbanks, ctl.	$1.00@1.25
Delta	.85@$1.00
Onions, yellow, sk	.60 @70c
Red, sk	.50 @60c
Bermudas, crate	.85 @90c
Garlic, per lb., new	4½@ 6c

POULTRY.

Though there have been some changes in poultry prices during the week, the market has continued fairly steady all the time, closing the week nearly at the level of a week ago. Arrivals have been normal.

POULTRY.

(Wholesale Prices, San Francisco.)

Live Turkeys, lb.	.15 @17 c
Broilers	.21 @23 c
Fryers	.22 @24 c
Hens, extra, per lb.	.16 @17 c
Small Hens, per lb	.12½@14 c
Smooth Young Roosters, per lb.	.23 @25 c
Squabs, per doz	$2.00@3.50
Geese, per pair	2.00@2.50
Ducks, young, lb	.13 @14 c
Old	.12 @13 c
Belgian Hares	7 @ 8 c

BUTTER.

The butter market has been very monotonous this week, without a change from start to finish. A good deal of business has been done at the exchange and sometimes at concessions from the prices quoted but the sessions have closed at the same figures.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	27	27	27	27	27	27
Prime Firsts	25½	25½	25½	25½	25½	25½

EGGS.

Some heavy arrivals of eggs sent the price of extras down to 25 cents early in the week; but a lively demand sent it up again to the highest price in some time. Selected pullets have been weak and are now quoted at 23 cents.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	25½	25½	25	25½	25	26
Firsts	21½	21½	21½	21½	21½	21½
Sel. Pul.	24	23½	23½	23½	23	23

CHEESE.

There has not been much business in cheese. Fancy flats are held at 13 cents, with bidders offering 12½. Young Americas are as before.

(S. F. Dairy Exchange prices on flats and Y.A.'s.)

Y. A.'s, fancy	12½c
Fancy Calif. flats, per lb	13 c
Monterey Cheese	10@12c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	26	26	25	25	25	25
Cal. Cheese	12	12	12	12	12	12

DECIDUOUS FRUITS.

Loganberries and raspberries are scarce now and prices are advancing, while blackberries are in abundant supply and are down as low as $1.50 with the best selling as high as $2.50. The general run of fruits is lower with the advance of the season and more plentiful stocks. Apricots are an exception as the season is drawing to a close with these, and prices are higher. Peaches are selling irregularly according to the supply and the quantity. A drop is expected at any time. Grapes are lower owing to increasing stocks, but they are in good demand and are moving off well.

Loganberries, red	$6.00@8.00
Strawberries, chest	3.00@5.00
Raspberries, chest	8.00@10.00
Blackberries, chest.	1.50@ 2.50
Plums, crate	35 @85 c
Figs, box	1.25@1.75
Apricots, crate	.50 @75 c
Lug	.75@1.25
Pears, Bartlett, box	1.00@1.75
Other varieties	.75 @1.25
Peaches, crate	.55 @80 c
Small box	.30 @40 c
Lugs	.75@1.00
Apples, new Red Astrachan, box	.65@1.50
Apples, Gravenstein	1.15@1.25
Cantaloupes, crate	.40@1.25
Watermelons, lb	½@1¼c
Grapes, crate, Thompson Seedless	1.25@1.50
Malaga	1.25@1.50

DRIED FRUITS.

New crop apricots are now coming in a little more freely; and a lot of interest is taken in this line. Packers are still quoting about the same figures here; but the market is admittedly firmer and more are being sold at the top quotations than formerly. Advices from some of the growing districts are that as high as 7½ cents is being offered and that growers are holding for 8 cents. There is no movement in prunes at present, though the feeling seems to be a little firmer. Peaches are offering in considerable quantities at the very low figures quoted, with few selling at the top. There is no movement and little interest in other lines. The New York Journal of Commerce says:

Shipments of prunes to Europe have been resumed. Forty-five hundred boxes are now being loaded at New York, and will be sent to England, continuing the export trade, which has been allowed to become somewhat lax during the past ten days. The present shipment consists of 4,500 boxes of old crop California prunes, sizes 40s to 50s and 50s to 60s. The inquiry from foreign markets is said to be increasing, and a renewed interest is seen by the trade in the business with London and the Continent. The distributive demand which is in progress in the New York spot market now is at least equal to if not greater than the usual trade which is in evidence during the latter part of July, according to one of the most important holders in the market of California spot prunes. The prices, however, in spite of the very steady demand which is being made, remain unchanged.

Jobbers in all the large centers of the country are said to have been combing the entire country buying any lots which are offered to them at a concession, and most of these lots are being sent to New York to satisfy the call which is being made. The supplies in New York are well cleaned up, and the smaller sizes of fruits have practically disappeared. Medium sized Californias are the most active in the trade, and are rapidly diminishing in volume.

The best posted people on the existing conditions of the market report that, owing to the lateness of the crop for the coming season due to the continued cold weather, it is believed there will be only a very limited supply of 1915 crop prunes for September shipment, and very scarce for all early fall demands. This situation has had a tendency, it is said, to maintain the strong feeling which persists in the New York spot market.

Prices to Growers.)

1915 crop.

Apricots, per lb	5½@7½c
Figs, white	3¼@3½c
Black	2¼@3 c
Calimyrna	4½@5 c
Prunes	2½@3 c
Peaches	2½@3 c
Pears	5 @8 c
Raisins (in sweatbox):	
Loose Muscatels	4 @4½c
Seedless Sultanas	5 @6½c

(San Jose prices to Growers, 1915 crop.)

Apricots, per lb	6½@7 c
Prunes, subject to dist	3½c
Peaches	3 c
Pears	5 @8 c

CITRUS FRUITS.

The eastern auction market has advanced on oranges and is holding its own on lemons. The stock of lemons in storage is being cleaned up and better prices are expected soon. On the New York auction, Monday, July 26th, valencia oranges averaged from $3.65 up to $4.80 per box and lemons brought from $1.35 up to $3.00 per box. Other auction points were about the same as above on that day.

Shipments from southern California for the season to the first of the week were: Oranges 30,006 cars, lemons 5,114 cars.

Oranges and other citrus fruits are neglected in the San Francisco market, transactions having been small for some time. Prices are unchanged.

(Wholesale Prices, San Francisco.)

Oranges, Valencias, bx.	$2.75@3.50
Grapefruit, seedless, box	2.00@2.25
Fancy	2.50@3.00
Lemons, box	1.50@3.50

NUTS.

The trade is now waiting for the new almond prices of the Growers' Exchange, which will probably be out in a few weeks. Meanwhile a little business is being done by packers, who have secured a limited amount of stock and are trying to bear the market. There is nothing doing on the spot, as everything is cleaned up.

(Prices f. o. b. San Francisco.)

Almonds, 1915 crop:	
Nonpareil	17 c
IXL	14½c
Ne Plus Ultra	14 c
Drakes	12½@13 c
Languedocs	11 @11½c
Walnuts:	
Jumbo, lb	19 c
No. 1 Softshell	16½c
Budded	18 c
Ungraded	8 @10 c
Manchurian	6 @11 c

HONEY.

All grades are weak at the prices last quoted. The only arrivals so far have been of extracted from the south, but northern stock is expected from now on, and prices may be lower.

Water White, comb	10 @14 c
Light Amber	8 @10 c
Water White, extracted	5½@6½c
Light Amber	3½@4½c
Dark	2 @ 3 c

LIVE STOCK.

Prices are unchanged. Beef cattle are firmly held, with a good demand in other markets, and there is some expectation of higher prices. Calves also are fairly steady after the decline. Offerings of lambs from nearby districts are lighter, and Nevada lambs will soon be arriving.

(Prices at San Francisco.)

Steers, No. 1	6¼@6½
No. 2	6 @6¼
Cows and Heifers, No. 1	5½@5¾
No. 2	5¼@5½
Bulls and stags	4 @5
Calves: Light	8 @8½
Medium	7½
Heavy	6 @7
Hogs: Grain-fed:	
200 to 300 lbs.	7
100 to 200 lbs.	7½
Prime Wethers	6¼@6½
Ewes	5½@6
Suckling lambs	8 @8½

DRESSED MEATS.

teers	10½ @11 c
eals, large	12½ @13 c
Small	14 @15 c
rime Wethers	12 @13 c
wes	11½ @12 c
uckling lambs	14½ @15 c
ogs	12 @12½c

WOOL.

Sales in this state are small and cattering, and the bulk of the clip said to be cleaned up. The market in general shows considerable rength, and while values are still ithin the range quoted the tenency is upward.

umboldt & Mendocino	18@27c
ool, Sacramento Valley, lb	18@22c
outhern, year's staple	15@18c
x months	14@16c

HORSES.

Recent offerings in this city have ntained little to interest local buys, being rather of the nondescript der, with light stock predomiting. Such stock moves slowly d the prices realized have been ther unsatisfactory.

Approximate values at San Francisco, based on auction sales.)

eavy drafters, 1700 lbs. and up	$275@300
ght drafters, 1550 to 1650 lbs.	175@200
unks 1350 to 1500 lbs	150@175
agon horses, 1050 to 1350 lbs.	100@140
een Mountain range horses, 950 to 1200 lbs	50@ 90
rm workers	60@ 75

MULES.

00 lbs. and up	$225@250
00 lbs.	200@225
00 lbs.	150@175
00 lbs.	125@150

HIDES.

There is a heavy demand from ners all over the country, and offings are quickly disposed of. A ther general advance of ½c is ted.

avy Steers, over 56 lbs.	16 @17½c
dium	16 @17½c
ht Steers under 48 lbs.	16 @18 c
y Cows, over 50 lbs.	16 @18 c
ht Cows, 30 to 50 lbs.	16 @18 c
	16 @18 c
al	18 c
Calf	18 c
Dry Hides	27 @28 c
Dry Kip, 10 to 15	26 @27 c
Dry Veal, 5 to 10	31 c
Dry Calf, 7 down	31 c
Horse Hides—	
Salt: Large	$3.00
Medium	2.50
Small	1.00

HOPS.

The market continues strong, with a general desire on the part of buyers to make contracts at the present range of prices. Contracts at 12c have been made in several places, and 13c is said to have been offered in Oregon.

1915 crop lb ..... 9 @12c

SPECIAL DECIDUOUS MARKET REPORT.

By J. L. Nagle.

Sacramento, Cal., July 26, 1915.

Despite the fact that receipts from California have been increasing in the last week and that the shipments from Texas, Arkansas, Georgia and other southeastern states have been heavier than any previous season in the history of the business, all markets have remained remarkably firm in view of these conditions. It is remarkable to think that this immense tonnage of fruit, principally peaches, could be put into consumption day after day. It is true that several cars, both from California and from the Southeast, have sold at prices less than the cost of production, but, naturally, these facts do not develop until the sale is made. It is safe to say that the height of the Eastern peach shipments is now on and California is marketing its heaviest crop of peaches within one week. Whether the market will tumble under increased receipts and heavier offerings is problematical, but fortunately several shippers have gotten under cover and have sold, in remote districts not affected by Eastern competition, several cars of Elbertas at prices that, though not altogether satisfactory, will net the grower a small amount over and above the actual cost.

If the present prices paid for the early shipments of Malagas from the Imperial and Coachella valleys are any indication or forecast of grape conditions later in the season, California has hopes. Sound arrivals of Malagas and Thompson Seedless have met with a ready demand. Malagas have arrived in better condition than the other varieties, as the Thompsons have been affected by vine hopper, which has seriously affected the quality of the grape.

Reports come to us from the northwest indicating that the apple crop will not exceed 60 per cent. Bartlett pears from Oregon, Washington, Montana and Idaho are now moving, and as the tonnage is below normal, the greater proportion of the shipments will be confined to the northwestern markets, fancy stock only reaching the Atlantic seaboard.

Late pears from California should meet a ready demand, provided the stock is good. Shipments of Bartletts from the Sacramento river and the Suisun district are now considerably lighter and the season should terminate within the next ten days. Prices as a whole for California Bartletts to date have been very satisfactory but some offerings have ruled low, due to several cars showing scab and the effects of thrip. Burbank plums have sold at only fair prices, the demand seeming to run to blue plums.

The following prices have ruled for the week:

New York—Bartlett pears averaged $2.20; Burbank plums, 93c; Tragedy, $1.28; Wickson, $1.28; Climax, 71c; German, $1.37; Eureka, $1.00; Malaga grapes, $2.10; Thompson Seedless, $1.85; St. John peaches, 63c; Elberta, 90c.

Chicago — Thompson Seedless, $1.59; Malaga Grapes, $1.68; Bartlett pears, $1.87; St. John peaches, 50c; Wickson plums, 85c; Burbank, 70c; Hiniori, $1.25; Duane, 62c; Tragedy, $1.27; German, $1.33.

Boston—Bartlett pears, $2.42; Eureka plums, $1.55; Burbank, 85c; Tragedy, $1.42; Wickson, $1.45; Sultan, 80c; Hiniori, $1.30; Hale peaches, 60c; St. John, 70c.

Total shipments to date, 3531 cars; total shipments same date, 1914, 4549 cars.

California Almond Growers' Exchange

The Exchange has withstood every storm, met every obligation, and has held fast to those teachings which stand on truthfulness, honesty, equity and square dealing in business. In five years it has grown from a membership of 230 growers to 900—a record which stands as a silent testimonial to the efficiency of the Association.

MAIN OFFICE, 311 CALIFORNIA STREET,

San Francisco, California.

PAPER RAISIN-DRYING TRAYS.

[Written for Pacific Rural Press.]

A country traveler in the Dinuba country in winter wonders at all the papers lying or blowing disreputably throughout the vineyards. Inquiry discloses that they have been used as drying trays for raisins; and, according to C. B. Driver, they are much more convenient than ordinary trays and much cheaper.

Wooden trays must be hauled to the vineyard and back again to be stacked. The papers are simply hauled out in bundles, and after use, are burned when the brush from winter pruning is burned.

In drying raisins, when the rain threatens they just roll up the grapes inside the paper trays twice as fast as they could stack wooden trays. They leave them rolled through the rain, then unroll them for further drying. If the weather is too hot when the raisins are nearly dry, and they are continually exposed to the sun, they taste like burned sugar — Thompsons sooner than Muscats because they are smaller. To prevent this, the ordinary trays would be stacked, but the paper trays are simply rolled up.

They are made from heavy Manila paper, 60 pounds per bundle of 960 trays, all cut 2x3 feet. Fifty-pound bundles are too light, and the paper is likely to tear.

Dr. Chas. Keane, State Veterinarian of California, has taken the position that the Show Herd of dairy animals which was quarantined at Hawthorne Park, near Chicago, Illinois, will not be permitted to enter California for any purpose during 1915. While Dr. Keane feels that the quarantine would not have been raised on these cattle by the Department of Agriculture if there were any danger of them transmitting foot-and-mouth disease to other animals, the general impression prevails in most parts of the country, and especially among exhibitors who desire to show animals at the Panama-Pacific International Exposition, that the International Dairy Show Cattle should not be permitted to be shown at San Francisco.

A letter has been received from Albert O. Pike, one of our valued subscribers from Hectorville, South Australia, in which he says: "I am pleased to say that our long extended drought seems broken at last, for during June we have had copious downpours of rain. The growing crops are soothing to the eye."

The Oakdale Union High School will have a course in agriculture next term.

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OILS & GREASES
RED CROWN
GASOLINE
Awarded
GOLD
MEDALS
San Francisco 1915

The Exposition gave *highest* honors to these Standard products made from California crudes, in competition with other gasolines and automobile oils.

Standard
Oil Company
(California)

Publisher's Dep't.

We have received from the bindery a lot of cloth-covered binders for filing current numbers of the Pacific Rural Press. This binder will hold copies for a complete year and is easily operated. By punching two holes in each copy of the Press when it arrives and then threading on a string and tying it, the papers are kept securely and cleanly. The price of these binders is $1.00 each.

Trade-marks and advertising are the two greatest public servants in business today. Their whole tendency is to raise qualities and standardize them, while reducing prices and stabilizing them. It is safer and cheaper to buy the well known advertised article put up by the manufacturer with his name and trade-mark on the package. Safer, because the manufacturer who puts his name on his goods puts his future into your hands. He must put quality into the goods or lose your trade, because you can always identify his goods. Cheaper, because advertising reduces the producing and selling costs of manufactuers by enormously increasing their output.

Every breeder of stock in California should read the signs of the times carefully these days. As we see it, there is now on foot a great movement for more and better stock for California. To make the greatest success, more pure bred stock for foundations is imperatively needed and those who can should prepare to furnish it. The man who satisfies himself by investigating that a certain kind and breed is what he can produce best and then gets busy will make fame and money.

$585 Buys This Combination Farm Tractor and Portable Engine

(F.O.B. Minneapolis, Minn.)



A Bull Tractor running a centrifugal pump in the Sacramento Valley



A Lady Bull Tractor operator in Los Angeles County

The BIG BULL is an all-purpose tractor, built to do all traction work on the farm. The Big Bull's price not only puts this proven money-maker and money-saver within YOUR reach, but actually makes horses TOO EXPENSIVE TO BUY OR KEEP. Think what the BIG BULL will do on your farm. It does the work of several horses and men. Does it faster, better, much cheaper. BIG BULL does all your plowing, discing, seeding. Runs manure spreaders, draws heavily loaded wagons, pulls hay loaders, mowers, binders. Runs corn shellers, feed grinders, small shredders, threshers, and ensilage cutters. BIG BULL is not only a powerful, economical tractor, but a PORTABLE ENGINE as well. Fifty-five hundred now used. BIG BULL is making money for farmers in every section of the United States. Never before was a farm machine so universally welcomed. YOU have undoubtedly always wanted a hard-working, labor-saving traction engine on your farm. Now's your chance to get one—at a price that breaks all records.

BIG BULL is entirely out of the experimental class. It has thoroughly demonstrated what it can do, working in all kinds of soil for the past two years. It can be conveniently and effectively used for SUMMER FALLOWING.

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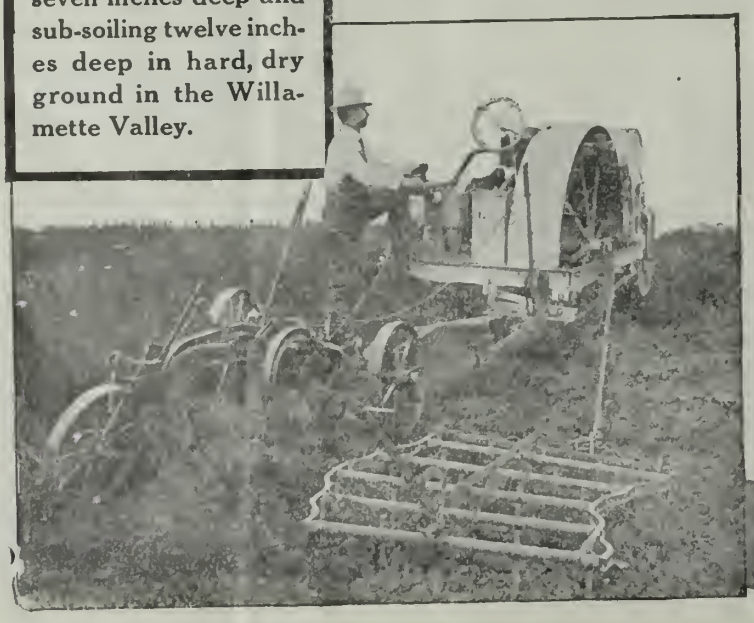
The bull wheel runs IN THE FURROW, yet does not pack the soil. Grousers four inches long on the bull wheel make it a deep-tilling sub-soiler. Hard sub-soil, even hardpan, is easily penetrated, loosened up and made ready for irrigation. Patented leveling device on BIG BULL makes it easily possible to adjust the tractor to side hills or deep furrows. Other features exclusive with BIG BULL are its direct drive with only four gears; steer wheel which runs in the furrow in direct line with bull wheel makes BIG BULL positively and automatically self-steering. Just remove two bolts and BIG BULL'S engine is in plain sight, every part easily and quickly accessible.

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We have a few "Little Bull" Tractors left at $495. Five Horsepower at the Drawbar, 12 Horsepower at Pulley Belt. There won't be any more after our present stock is exhausted.

Note the photo below, showing a Big Bull pulling a J.I. Case 2-14 inch bottom "Enicar" Power Lift Plow, Harrow and Sub-soiler, plowing seven inches deep and sub-soiling twelve inches deep in hard, dry ground in the Willamette Valley.



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THE PACIFIC RURAL PRESS

SAN FRANCISCO SATURDAY, AUGUST 7, 1915 LOS ANGELES

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Relation of Butter Markets to Dairying.

The Creamery Man Who Does Not Pay More for Good than for Poor Cream is Retarding the Development of the Dairy Industry. Higher Butter Prices Will Come When Dairyman and Creamery Man Co-operate in Turning Out a Butter that Will Sell on Distant Markets.

No great industry of a State can with safety grow faster than its markets, and for that reason far-seeing men interested in the dairy industry of California are at present more interested in markets than they have ever been before.

And well they might be, for we have last year produced something more than five million pounds of butter in excess of what we consumed at home. Those who have kept themselves at all posted know that the bulk of this excess butter has been successfully shipped to Australia this year. They also know that this is at best a temporary relief due entirely to the drought conditions in that country, which created an underproduction.

At the present writing, our storage supply is less than one-half of the normal amount and the prospects are for better prices during the winter months. But what of next year and succeeding years? Our dairy industry is gaining in production each year a great deal faster than our home consumption. This brings us face to face with the same problem that has and still is facing many other agricultural industries in this State, viz.: Whether we shall stop with our present production or continue to advance and develop outside markets.

With dairy products, there is no choice. We have the feed and the farmers to grow it and are fast growing into better dairy cows to eat it. It is an economic necessity that we enlarge our dairy industry, which as above stated means that we must enlarge our markets. We are speaking now of butter, for that is and will no doubt continue to be our chief product, although cheese, which will be mentioned later, must not be forgotten.



Marketing California's Surplus Butter Is Purely a Matter of Quality and Will Always Be. When Producers and Manufacturers Appreciate This Fact More Thoroughly There Will Be No More Talk of Over-Production or Low Butter Fat Prices.

Where Our Markets Are.—According to the best informed distributors, undeveloped markets await our butter from Alaska to South America on the Pacific side and from New Orleans to New York on the Atlantic side. It is pointed out that San Francisco is the logical market for the Pacific Coast butter trade as for other exportable products; and with the exception of competition from Australia and New Zealand, which will probably be a negligible factor for the reason that their channels of trade are with England rather than America, we will some day have a large and growing market to supply on this Coast. From a butter trade standpoint, however, the Atlantic Coast trade is most enticing since the completion of the Panama Canal.

While as yet no refrigerator service from San Francisco to New York has been installed, rates on butter have been quoted as low as 90 cents a hundred as compared to the present rail rate of around $1.70 from Wisconsin, Iowa, and other middle western states to New York on butter.

On account of density of population, with a resultant drain on their whole milk resources for city trade, the New York market will demand butter importations in ever-increasing amounts; and from the above quoted rates it appears that California has an edge on middle western competitors in freight rates at least. It is also a noteworthy fact that our heaviest production and lowest prices have for years been during March, April and May, while similar records of the New York market show that receipts there are lowest during those months and prices higher than at any other season.

Considering the matter from a cost of production standpoint, there is no question but that our feed and climatical advantages make it possible to produce butter here cheaper than it is now possible in any middle western state.

After all, then, it does not seem important that we get unduly excited about our dairy industry either from a production or marketing standpoint; but in truth we should get excited, and that excitement should lead to the united action of producer, manufacturer and distributor alike.

Whether it be Pacific or Atlantic Coast trade that we strive for, the all-important consideration, and the one upon which all exporting of butter hinges, is quality. Second quality butter will not command first quality prices in distant markets any more than it does here, or any more than a pair of overalls will command the same price as a pair of broadcloth trousers.

Who Is to Blame?—Neither factory owner or dairyman is wholly

(Continued on page 136.)

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R. E. HODGES - - Assistant Editor
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California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at p. m., August 2, 1915.

STATIONS	Rainfall Data: Past Week	Seasonal To Date	Normal to Date	Temperature Data: Max'm	Min'm
Eureka	0	.20	.11	64	52
Red Bluff	0	0	0	102	66
Sacramento	0	0	0	96	56
San Francisco	0	.01	.01	70	50
San Jose	0	0	0	86	50
Fresno	0	0	0	104	58
Independence	0	0	0	94	..
San Luis Obispo	0	.01	.01	86	48
Los Angeles	0	0	0	82	62
San Diego	0	0	0	74	62

THE WEEK

The passing days find us in the thick of the Exposition Congresses. Every other man you meet on the street has his features "sicklied o'er with the pale gleam of thought," and every other woman shows by the set of her hat that she lives in higher reflections than those of the mirror. Except when they drop to the common level of mankind and hustle for buns in the cafeterias, these guests of ours are true Athenians, for they spend "their time in nothing else, but either to tell or to hear some new thing." And they are having a grand time of it, except when the San Francisco fog gets too thickly entangled in their gauze underwear and they begin to realize one thing particularly new to them, viz.: that the name California is not wholly built up from words signifying heat. All during August and beyond, these national scientific bodies will be assembling within hearing of the booming of the Exposition fireworks, bringing to California new visions of the all-permeating power of science, for surely very few of us knew how many national associations of science there are in this country, nor how deeply their work enters human life and action at all points. But here they are, touching elbows with us in all our throngs, men and women whom the world calls great, because they reveal wisdom and understanding—congressmen and women intellectually higher than our conventional type thereof as displayed at the national capital; men and women whose thoughts now as never before influence our rulers and underlie our national policies: men and women who tell our national observatories how to find new worlds in the back-lots of the universe, and how to produce babies who can really justify proverbial wisdom because, through systematic observation and registry, they can know their own fathers. It will really be wonderful how much better the world at large will know California after this invasion by thousands of people upon whose words the world hangs expectant. And they are delighted with what they see here in nature and in human achievement: in all their coming years they will never cease to speak and to write of California. No Exposition success will be so fundamentally and enduringly influential as that of its great congresses of the world's thinkers and creators in the realms of history, art, literature, science, economics and the humanities, for in all these and allied lines great thinking and great speaking are being daily achieved beneath the cool summer skies of the metropolis.

Horticultural Events.

Among the Exposition assemblies, from an industrial point of view, probably none will be greater than those of the horticultural and pomological groups. Several such events have already passed, but the great chain will really show its first link with the assemblies of the Coast and State Nurserymen's Associations, beginning on August 12th and closing with "Nurserymen's Day" at the Exposition August 16th. Details of these meetings, as they come to us, will appear on other pages. It is fitting that the series of meetings of horticulturists, pomologists, florists, gardeners, park superintendents, etc., should open with the work of the nurserymen, for it surely underlies all our planting activities, both for pleasure and profit. Not only this is and always is to be true, but it is well to remember that our annual million-dollar product of fruits and fruit-products historically outgrew from gardens, of which the owners were, in most cases, our pioneer nurserymen. Of course, the padres had to teach the Indians the origin of the human race and its relation to the Creator by making gardens, of which they could get no idea except by such demonstration. The early settlers who wearied of trapping and scrapping with Mexicans also made gardens and dozed from hardship in the grateful shade of their vines and fruit trees. From the gardens at the Missions and the gardens of the restful trappers, many of the gold-seeking throng of '49 took first suggestions of California garden joys and first seeds and cuttings for their own planting. While early mining was still at its height, early nursery work began, and was but the extension of garden planting. Thus the garden was historically the parent of our great nursery industry, which now counts its profitable use of land by thousands of acres instead of by thousands of square feet, as at its beginning. Such facts as these, in addition to its fundamental nature, as furnishing that which is indispensable in planting, should give the nurseryman just pride of calling in their vocation and lead all who are connected with California plant industry in any form, as well as those who on broader grounds take patriotic interest in the development of the State, to contribute to the success of the meetings, of which announcement is made for next week. The nursery industry of California is well organized in its association, of which the officers are exceptionally active, intelligent and devoted, and every one in the business of plant propagation in any form should add his own strength to that of his representative association—which can surely be called a "grand, old business," for was not Adam the first man to be expelled for misbehavior from a nursery society? Do better than Adam: get in and stay in.

Our Fruit Growers' Conventions.

The sad scarcity of fruit growers at the convention at Stanford University, of which an outline-report is given on another page, is only what might have been expected, for two reasons. First: the meeting was called at a time when nearly everybody who has fruit was busy with something connected with its production and harvesting, and also at the low point in his annual financial barometer. Second: the meeting did not offer the stuff which growers will make sacrifice or pay money to get, because it is amply otherwise provided. It is a mistake to lay out a popular convention for promotion of State interests on the line of a local farmers' institute, or of a short course at a University. This is a mistake because the subjects and speakers are too academic to draw men who need to confer on points of advanced practice; also because such subjects and speakers are amply provided by the University occasions, which are offered at times of greater leisure. The strictly educational phases should be left with the University, and it is the University's function to rake the world for those fit to set forth comparative studies which may have some suggestive relation to California conditions. Such speakers do not usually have the California point of view, and their achievements in thinking and research have been gained under radically different conditions—only a conference of an educational character can profitably use them by checking up and studying suggestive relations. If academic work, of clear local value and application, is desired at popular assemblies in California, our own trained experts, wise through actual contact with local conditions, are the ones to furnish it. A stranger may mislead or unsettle without consciousness of doing it, and with the most sincere desire not to do so. Our fruit growers' conventions need fuller divorcement from academic elements: we should be inclined to try one without a college man or a horticultural official on the platform. Even the ex-officio chairmanship of the convention is a burden. It was invented many years ago to crush kickers and protect the bureaucracy: it is better to let the assembly handle kickers and to conduct the bureau so that it protects itself by general esteem. If our fruit-growers were called together to confer as they desired on topics of current importance, without being closely programmed or personally conducted, the lost influence of their assemblies would be regained.

The Fruit Foods.

We are glad to see indications that California fruit foods are emerging from some of the clouds which lowered earlier in the season. The city canners have shaken off part of their funk and are clearing up surpluses in the retail markets. If the country canners had not picked up such a scare early in the season, it would have been better for all concerned, for the outward movement has started briskly under the reduced freight rates to the East. Table grape growers have been encouraged by better contract rates for August delivery, and courage seems to have been gained that Eastern people will need all the good ripe grapes we can send them. The condition which is now appearing would have been foreseen earlier in the season if the pessimists had not wailed so loudly—either from fright or self-interest. The New York National City Bank has issued quite a

detailed discussion of the situation, of which this is the gist: "The industrial revival has now reached the stage where, with the additional impetus that may be expected from a good crop, it should include nearly all lines and assure a satisfactory state of general trade this fall." This means, of course, a better demand for California fall and winter fruits and for preserved fruits of all kinds.

Exports of fruit products to Europe are increasing. James Madison, manager of the Raisin Association, announces the sale in Fresno of 3000 tons of raisins for export to European countries. England is to receive the larger portion of the shipment, as the supply in Turkey has been cut off by the war. More large orders are predicted. Australia is taking greatly increased shipments of dried fruits from this port. Italy is taking California prunes—not many of them yet, but four times as many in 1913 as in 1912, which is a rapid rate of increase. It is reported that the demand for prunes has developed through the advice of some of the Italian doctors, who prescribe this form of food for their patients. It would be well for the world if it had more Italian doctors.

Coffee Grounds.

The tea cup has some standing in prophecy, and the amplitude of its residual contents have been long taken as indications of coming wealth, if we mistake not. We doubt, however, if there were ever as good grounds for significance in tea as those we now find in coffee. Experience in marketing coffee seems to have overturned a whole school of economists, and any agency which can do that is surely going some. The school to which we refer has always maintained that the government, first, had no right to do anything in price-fixing; second, that if it tried to do it, it would muss up trade calamitously; third, that such efforts would inflict burdens on producers and give consumers all the chances of advantage. And, therefore, they have exhorted producers not to invoke government help when their produce brought less than its cost of production. The latter was exactly the case when the Brazilian government, several years ago, began to regulate the price at which coffee could be sold, and set this whole school of economists to calamity-howling. Now what has happened? Taking the words of a contemporary which, if we mistake not, has had much to say about the government keeping its hands off private business, this has happened: "Brazil seems in a fair way to afford a complete demonstration of the ability of a government to prevent the producer being made the victim of artificially created depressions of price, and it may be possible for it to prove that the operation of the assumed economic law that a slight surplus must invariably result in greatly advantaging the consumer may be overcome. * * * There has been some doubt expressed concerning the success of Brazil's valorization plan, but the fact that the attempt is to be repeated, perhaps with some change of detail in the mode of carrying it out, implies that it was not a failure. It is reasonably certain that if the scheme had not been attended with satisfactory results it would not be repeated."

In the case of our contemporary making this statement, it is confession which is good for the soul. Of course, there are conditions of supply and demand under which government regulation might effect nothing—or possibly even injury. But when great corporated or syndicated interests scheme to depress prices to producers below what is fair or warranted, it is clear enough that government regulation can prevent it and clear enough also that government regulation should do it.

Vagaries of Rural Credit.

We have always thought that the application of European rural credit provisions might produce some startling surprises in this country, and they are surely on their way. In Europe, if we have read and observed aright, rural credit provisions are promoted by the governments and by the social higher-ups for the increase of food production—not forgetting to credit them with the broad philanthropy which they never forget to claim. If we are not mistaken a European farmer could no more get a rural-credit loan for any other industrial purpose than farming or farm manufacturing purposes, than he could get it to fly with. The administrators of such loans always enquire closely into the farming purpose, the fitness of the land and the man to make good, and then they sit on the fence and see that the man does nothing else with the money. Of course, this is rather a narrow horizon for an American to admire and therefore we are not startled that application of rural credit methods is producing some surprising out-crosses when bred to American farming ideas and operations. For instance, Wisconsin recently passed a law providing that "loans can be made only for increasing the value of the land mortgaged either by supplying live stock or implements for agricultural purposes, retiring indebtedness on improved or partially improved land, or in some manner improving the place upon which the mortgage is taken." The closing clause is rather broad and characteristically American in its point of view, for as we read farther we find that the writer in Hoard's Dairyman, from which we are quoting, points with pride to this operation of the law: "This settler was able to borrow $3,750 on his place, and the sum was considerably less than half what the place was worth. With the funds borrowed under the State land mortgage act this farmer built a small hotel and a store. He met the interest charge promptly at the end of the year and had $450 available to apply on the principal. By getting capital at six per cent interest to work on, this farmer was not only able to continue improvements on his farm, but to develop a small business center which was of direct value to his locality, as well as to himself, and hence a help in the upbuilding of an agricultural section of the State."

We are not at this moment dissenting from this broad view of State-approved credit; it may be all the writer claims for it. But it is none the less amusing to think what a shock it must be to the Wisconsin philanthropists who urged the measure to get more and cheaper food to find their endowed protege in the hotel and grocery business and keeping himself on the farm thereby.

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Queries and Replies.

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Corn Stalks, Bermuda and Alfalfa.

To the Editor: Would it be a good idea to plow under corn stalks this fall, say, in November, and plant oats for hay; after the hay is cut, plow the land dry several times to kill Bermuda grass and sow in the fall to alfalfa? Would the corn stalks be worked up enough by that time so as not to interfere with a good seed bed for alfalfa.—F. M. B., Hanford.

We suppose you refer to moist land, for on a dry land Bermuda sod you would presumably not get corn stalks enough to matter what you did with them. On dry land, too, if you did have so little Bermuda as not to check the corn, and you had plenty of stalks to plow under, whether you would get oat hay worth mentioning would depend upon whether there was a good heavy rainfall or not. With corn stalks below and dry winter skies above, you would not get much oat hay. On moist land your program might work through all right, but on ordinary plains land we would windrow and burn off the stalks and kill out as much Bermuda as possible by a good dry disking—beginning as soon as you can get clear of the stalks. Then you can put on your oats and get winter growth while it is too cold for Bermuda and go on with your dry working the second summer. But we should cut out the oats and put in the alfalfa this fall or next spring as early as safe. Unless the land has alkali enough to give the Bermuda the right of way, alfalfa will fight it and make good feed of the mixed growth.

Peach Blight on Fruit.

To the Editor: I am sending some peaches with spots on them. Please tell the cause and remedy. The cannery refuses to take them.—A. R. D., Pomona.

The blemishes are large groups of circular blackish spots about an eighth of an inch or more in diameter. Sections show that the trouble is in and slightly under the skin. There is nothing to do with such peaches but hand-peeling and drying—when this can be profitably done. The cause is the peach-blight fungus which usually does worse work in the bark of the twigs, but this has been a fungus year and the spores have been busy on the fruit. The treatment is spraying with Bordeaux in the fall, after the leaves have fallen, and repeated in the spring, before the blossoms open.

Distracted by Extracting.

To the Editor: I have been in the bee business twelve years. The last two years I have suffered from a poison in my face and hands every time I extract the honey. I have tried a number of remedies but none helps. It lasts two or three days. Do you know the cause or if there is any remedy? I am unable to sleep nights during the trouble.—O. W., Dinuba.

We have had no observation of such a trouble, but some of our beekeeping readers may be able to explain it for us. If they do not respond we shall either take the case to be one to be studied by your physician or to be avoided by getting some immune person to do the extracting for you.

Vital Discussions at Fruit Convention.

[Written for Pacific Rural Press.]

A cracking good program delivered to unusually small audiences, amid the most beautiful surroundings, at Stanford University, characterized the 46th California State Fruit Growers' Convention. But already the boosters are busy for the next one, which will be held the third week of November at Visalia; and the program has been partially arranged for some of the best speakers at this convention to figure on giving still better papers there.

The criticism that there were too few papers by actual fruit growers will be met by the arrangement that at least half of the next convention program will be given by men who have been most successful in their line of fruit growing; the other half will be by scientists of State-wide and Nation-wide repute. The criticism was also made that papers prepared by scientists and growers of other States are likely to mislead our growers on account of different conditions.

For the federation of California agricultural organizations, a tentative constitution was drafted to be reported at a great gathering in San Francisco of all interested farmers of the State in October or November. The constitution provides that all associations affecting agriculture, whether State-wide or only county-wide, should be allowed to send one delegate as an active voting member of the federation. Besides these active members, all people interested might join by paying a membership fee of $1.00. One of the big questions asked in the convention was: "How can we co-operate?" A pretty big question this—but it was pointed out that one of the duties of such an agricultural federation would be to help put into operation proved principles of co-operation.

The original committee appointed to work up the federation was continued for the purpose of reporting at the next convention on a form of organization for the fruit growers of the State in order that they might send an accredited representative to the federation. Such an organization would also be an effective means of making the conventions more generally valuable and appreciated by the fruit growers of the State, whereas now the work all depends on the call of the State horticultural commissioner.

The first session of the convention has already been reported. Wednesday morning was largely devoted to pears; and it was during this session that the greatest number of questions were fired at the speakers in the discussion which invariably followed the reading of papers at this convention.

R. H. Parsons, a pear grower of Washington, made the following points: Asiatic pears are most resistant to blight, but are of slow growth. The most dangerous location of pear blight is on the trunk and roots, where it is also hardest to eradicate. Grafting the Keiffer, which is a cross between the Asiatic and European pear, onto the blight-resistant Asiatic root, letting it grow two or three years, and then grafting the desired variety of pears onto its limbs, supplies a faster growing blight-resistant trunk and roots.

Japanese pear stock was advocated by A. L. Wisker of Grass Valley, as being very blight resistant, does not sucker much, and seedlings have had less of the fungus blight in nurseries. Pear root aphis does not hurt it. It is needed in the dry soils, especially in the Sierra foothills, where there is great injury due to the root aphis. For wet soils, dwarf pear trees on quince roots were advised, especially because dwarf trees are so much easier treated for blight. Many varieties must be double worked if quince stock is used.

Production of pears will treble in ten years, according to Percy Gammon, another pear grower. The future is bright for growers who keep everlastingly at the blight fight. On the Gammon ranch, patrols are started at blossoming time to cut out all infected twigs and burn the brush every night. The root and trunk work is done mostly in the winter time. During the last fiscal year, with the trees in fair condition at the start, it cost 30 cents per tree for the blight fight and was far more than worth while. Tanglefoot is applied around the trunk about two inches wide to prevent passage of ants from infected tops to uninfected roots. Infection comes from neighbors, who, under the law, are obliged to clean up the blight; horticultural commissioners are supposed to eradicate blight where people will not, but do not always carry out the law, causing reinfection in spite of persistent fighting.

Apricots.—Older trees need irrigation to mature regular crops, according to F. B. McKevitt. Shothole fungus is a great menace. Owing to particular soil requirements it is not possible that the apricot will be overdone like the peach. Consumption should be increased by marketing dried apricots in small packages and advertising in journals that reach the homes. Growers must organize to do this advertising and increase consumption. Summer pruning is best just after the crop is off, with an irrigation just before or just after the pruning, to strengthen the buds so that they will resist the shothole disease and set fruit persistently.

Sulphur as Fertilizer.—Fertilizer experiments carried out in southern Oregon, according to F. C. Reimer, Sup't. of the Southern Oregon Experiment Station, showed very little result on alfafla from applications of nitrogen and potash, but showed remarkable rusults from applications of superphosphates. Since superphosphate is high-priced, in the second year ground rock phosphate with double the phosphoric acid at half the price was used, but the expected crop increase did not materialize. It was decided that the sulphur in the superphosphate was the needed factor. Crude sulphur was then applied at a cost of about two cents a pound on similar plats and monocalcium phosphate on others at a cost of 9 cents per pound, plus express charges from Rhode Island. The sulphur gave the increase, but the expensive and most available form of phosphate did not. The Wisconsin Experiment Station has recently shown that sulphur is much more used by plants than was formerly known on account of incorrect analytical methods. Gypsum has a good effect on account of its sulphur content, besides whatever effect it will have on the soil. The greatly increased crops due to applications of sulphates remove greatly increased quantities of other available plant food elements, thus reducing the soil fertility much more rapidly than if smaller crops were raised. That is why some alfalfa fields increase rapidly for a few years under the use of gypsum, and then fail. Legumes, cabbages, etc., need sulphur more than fruits and other crops.

Cherries.—With cherries, resistance to gummosis is best obtained by growing Mazzard seedlings, which cost about one cent each, and top-working other varieties into the limbs.

Avocados.—Are here to stay, the only question is as to what variety, according to Prof. D. L. Crawford of Pomona College. At present, nursery trees and fruits cost too much and we have too many "amateur propagators" who do not pay attention to bud selection. The avocado growers, according to C. P. Taft, are already organized along the lines of citrus growers, taking time by the forelock to avoid the disasters which came to citrus growers before they were organized, on account of large production and poor distribution.

New Citrus Methods Developing.—Great changes are now taking place in the culture and handling of citrus trees, according to Dean H. J. Webber of the Citrus Experiment Station at Riverside. Clean culture has been actually killing the soil by opening it to the great disinfectants—light and air—which kill the bacteria which work the cellulose of organic matter into humus, without which citrus trees cannot thrive. Cover crops, not only for their organic matter but for their shade, have been shown necessary by the fertilizer plats at the Station where organic matter was applied steadily, and clean cultivation practiced. There the soil has been deadened by clean cultivation, though it is rich in nitrogen. It has been found that furrow irrigation carries nitrate plant foods downward with the water and then upward, concentrating them close to the surface where the roots are less liable to use them and where the land is always dried in the form of a cultivated dust mulch. There is a tendency to believe that we must go back to basin irrigation, filling the basins with alfalfa or other organic mulch that will prevent evaporation and conserve the soil moisture, shade the soil to prevent killing of the bacteria, and finally by its own decomposition enrich the soil. The fire danger of such mulch if continuously applied throughout the orchards can be prevented by leaving levees between the basins unmulched. If anything tends to drive the plant pathologist crazy, it is the number of spotted fruits sent in for diagnosis. The differences are obscure, and their causes are little

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known. Prof. H. S. Fawcett has, however, found that squeezing a little lemon oil onto the skins deadens the tissue about it. Packing fruit high in boxes to get the most weight, to get the premiums at some shows, must surely break oil glands and cause spotting soon.

Almond Outlook. — Almond requirements are known, the pests are under control, and the future of this industry depends on securing markets for the 5 times multiplied crops that are due in five years, according to G. W. Pierce of Davis. Spain is California's chief competitor. Labor for the almonds there is obtained at 25 cents a day for women and 60 cents for men, and it costs 27 cents per cwt. freight from Spain to our eastern markets, while it costs 75 from California via Panama and $1.40 by rail. In the face of these facts, the tariff was reduced from 6 to 4 cents on shelled almonds and from 4 to 3 on unshelled. Two-thirds of the imported almonds are shelled, and by hand. The Cal. Almond Growers' Exchange shells by machinery, having a carload of meats per day capacity.

Co-operation.—This factory was built out of the profits of co-operation after paying the highest prices to the grower members. No assessment or contribution was leived for the building fund. The 20 per cent of California almond growers who have not joined the Exchange furnish the ammunition which is used for the purpose of undoing co-operation. Independent growers are paying a commission for their own undoing.

Co-operation of orange growers, when no one of them could determine the cause of loss of 10 to 40 per cent by decay on the way to market, was the means of bringing G. Harold Powell to the coast and the discovery of means of preventing most of the loss, according to J. H. Reed of Riverside. Co-operation was the means of obtaining the Citrus Expt. Station, which, in his opinion, is about to revolutionize the industry.

Legume Cover Crops.—Two hundred pounds of nitrogen per acre for $8 cost of seed, plowing, and cultivation, besides the physical improvement of the soil, addition of humus, and reduction of mottle leaf, are the results of leguminous cover crops according to C. S. Vaile of Claremont. Only ¼ of the orchards investigated by the Citrus Experiment Station had cover crops of any kind and half of these were non-legumes. All varieties are best sown in September for legume cover crops.

Orange Standard of Maturity.—Data on the composition and color of mature oranges from one district are not necessarily correct for other districts nor for other seasons in the same district, according to E. M. Chace of the U. S. Dept. Agr., and accordingly, tests are being continued in the various districts and under various conditions of each district. Tulare county found most commendable results from the 8 to 1 test last season, though Butte county lost by it.

Insect Parasites.—Much harm has been done by depending on natural enemies of our insect pests rather than using proved methods of control, according to Prof. A. W. Morrill of the Arizona Expt. Sta. Harry Smith of the Cal. State Insectary and Dr. L. O. Howard, head entomologist of the U. S. Dept. Agr. corroborated the statement, saying that natural control of injurious pests is in general not yet to be depended on.

Soil Conditions and Crop Production.—A cubic foot of fine soil, if the surface of its particles could be spread out, would cover an acre, according to Dr. J. G. Lipman of the N. J. Expt. Sta. Water to be available for plants, is spread in a film on the surfaces of the soil particles. If it fills the spaces between, it is harmful. In peat soil, the particles hold the water so tenaciously that much of it is not available, while in coarse soil, the total surface of the particles is much reduced. In general if a soil has about half of the water it is capable of holding the balance between soil water and soil air is most favorable for crop production.

U. S. is now using $150,000,000 worth of commercial plant food yearly. If we fertilized like Germany, we would use $1,600,000,000 worth. California uses 50,000 tons of commercial fertilizer annually, while New Jersey uses about 200,000 tons. We sell $10 worth of nitrogen when we sell a ton of alfalfa hay for $8. If it all came from the soil it wouldn't pay.

In order to get the good offices of soil bacteria in rendering plant food available, we must supply them with nitrogen or with legumes which enable them to help fix atmospheric nitrogen for their own uses. In using nitrate of soda, about 62 per cent of the nitrogen was recovered in certain crops analyzed, while only 40 per cent of the nitrogen in cow manure was recovered. The rest was used by bacteria, leached away or fixed by chemical combination in unavailable form.

Eel Worms.—Eel worms, according to Prof. Peter Frandsen of the University of Nevada, are widespread and infect many plants and trees, being most serious in potatoes. They stand moderate freezing for weeks at a time. Fourteen days' freezing at 15 degrees F. killed all worms and eggs. But drying is very quick and effective in their control. Formalin treatment of infected tree roots is doubtful. Baking seed potatoes at 102 degrees for 24 hours sterilizes them without killing the seed. Plowing and cultivating a field free of vegetation or irrigation for a year is rather effective in control.

Olive Outlook.—"If New York City ate as many ripe olives per capita as Oroville, California couldn't supply them," said B. B. Meek of Oroville, after Frank L. Brown of the Exposition had called attention to California's 25,000 bearing acres as compared to Europe's 10,000,000. A state-wide olive growers' association modeled after other proved co-operative organizations was urged, but no action taken. Prof. W. F. Oglesby pointed out that olive knot is the only serious disease, and black scale the only serious pest in California, while troubles are multiplied in the old country.

Livestock Necessary. — Raising plants to feed animals to make fertilizer to feed other plants was emphasized and reiterated as the only solution of farming problems, by Prof. Roberts. "And raise boys and girls, too, out in the country." Prof. W. P. Kelley of Riverside Expt. Station also emphasized the need of diversification.

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OFFICE—250 North Point Street, San Francisco, Cal.—WORKS

Land Owners Guarantee Nursery Bills.

[Written for Pacific Rural Press by Chas. A. Chambers, Fresno.]

A custom which has prevailed ever since nursery stock was sold commercially, has been a detriment to the grower and seller of nursery stock; and nurserymen generally have suffered to the extent of many thousands of dollars as a consequence.

The custom I refer to is none other than selling to a man who has bought a place on part payment, a bill of nursery stock on credit, or where a small payment has been made on account, the balance to be paid at some future designated time by note, or open account.

We will assume that a Mr. John Pipp purchases a bill of nursery stock from the Watt Nursery Company. The nursery stock so bought is planted on twenty acres of land that Mr. Pipp purchased from a Mr. Ketchem. Mr. Pipp in the first place possessed only a limited capital. The price of the twenty acres represented the total sum of two thousand dollars.

Mr. Pipp practically starts in on a ten per cent capital and ninety per cent credit. In other words, Pipp tries to swing this twenty-acre proposition with a capital of $500.00. He pays Ketchem, the land owner, $300, initial payment, and promises to pay the remainder due in three years at 7 per cent interest.

After this part of his start is consummated, Pipp hunts up Watt, the nurseryman, induces the latter to let him have a bill of nursery stock amounting to $300, paying $50 on account of his purchase and gives his note for the balance, payable in a year. Pipp, after he gets his place planted, figures on getting some sort of employment to tide him along until his place is developed, but misfortune befalls him and in about twelve months after starting his twenty-acre ranch venture, Mr. Pipp arrives at the conclusion that he is unable to swing the undertaking and decides to throw the land up, and the ownership reverts back to Mr. Ketchem. The latter has practically an improved place at this stage of events, at the expense of both the nurseryman and the limited amount of capital invested by Mr. Pipp to get the place planted.

The nurseryman figures as the biggest boob in the transaction, as Ketchem is not responsible for the debts of Pipp and as Pipp bought the nursery stock, Pipp must pay the bill. Pipp is penniless and cannot pay and it is up to the nurseryman to worry along and do his best to make Pipp pay the bill. Pipp, by losing his place, does not feel enthused in paying for something he never got the actual benefit of, and the account drifts along, becomes outlawed, and the nurseryman suffers the consequence. There are thousands of this identical case being pulled off in the United States from year to year. What's the remedy?

Someone else will have to answer this question fully. It is all very well to say the nurseryman must be careful in selling stock to this class of buyers, but how is one to know the exact circumstances in deals of this character? In these cases conditions appear on their face as regular. The nurseryman presumes, if a purchaser invests his time and money to begin a proposition of this sort, he acts in good faith and will take a chance. It occurs to me, however, that this chance taking should be regulated in some way to prevent so many heavy losses to the nurserymen.

Let Those Who Benefit Pay the Bill.—I think the original seller of the land, inasmuch as he gets the benefit of the land being improved and planted, should at least guarantee the payment of the bill of nursery stock purchased to effect the improvement. The original owner can afford to assume at least the amount expended for nursery stock, especially when he receives the benefit of a substantial cash payment on account of the purchase price of the land and the benefit of the labor and energy expended by the buyer, who later throws up and quits his task.

Or if some law was passed to provide that in all sales of land, where the purchaser does not pay the entire amount in cash, that it will be the duty of the seller to ascertain from the buyer exactly what the latter intends to do towards initial improvement and thereby make provision for his own protection, in the event that the law holds the original seller liable for not only nursery stock planted, but lumber for house building and other embelishments within reason, which is actually used in improvements. No personal purchases, or obligations to figure in the consideration— simply actual commodities used in constructive improvements on the land proper.

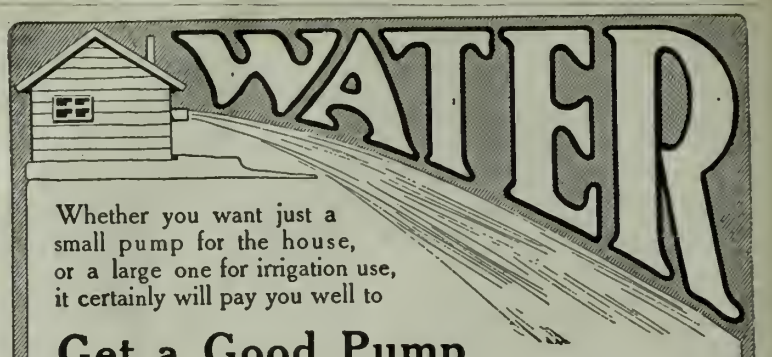
COVER CROPS AND FAILING WALNUTS.

To the Editor: I see by your index that you have already answered questions on cover crops, but as I am a new subscriber to your paper I have not had a chance to read them. I would like to know what would be the best cover crop to plant as a soil renovator for a light sandy soil. When is the best time to plant it and when could it be plowed under?

I have two English walnut trees planted in the spring of 1914 which have made practically no growth and now the leaves are curling and turning black. What is the cause, and is there anything I can do for them.—Subscriber, Bakersfield.

[The best plant for cover crop in any place is the one which makes most growth for plowing under green. This has really to be determined by trial. The plants discussed by Mr. Bristol in July 31 issue may be good for you. Burr clover is one of the best when the growth has to be made by winter rainfall and plowing is done in the spring. If you have irrigation and can grow a summer crop, cow peas are good. It looks as though your walnut trees may have had too little moisture or find alkali in the soil. Plenty of water and good cultivation may save them.—Editors.]

"Some men have no hearts," said the tramp. "I've been a-tellin' that feller I am so dead broke that I have to sleep out doors." "Didn't that fetch him?" asked the other. "Naw. He tol' me he was a-doin' the same thing, and had to pay the doctor for tellin' him to do it."



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Hay Saves Windfall Pears.

[Written for Pacific Rural Press.]

By using dry hay in the pear orchard, year after year until the hay wears out, B. F. Weston of Santa Clara county, and two of his neighbors, save a large percentage of their windfall pears for the cannery. Without the hay, the pears would fall on the hard, sharp adobe and would be pierced by small pieces of dirt, and would be bruised by the fall, so that they would be hard to sell even perhaps to the dryers.

Mr. Weston's windfalls are not due to worms, for he sprays as thoroughly as anyone, and the codling moth does not bother him. On a still cool night, after a windy day, he has noticed the pears dropping all over the orchard, more it seems than during the wind. These are picked up every morning to avoid sunburning and also to avoid bruising by one pear falling on another.

Fewer Windfalls.—The hay makes a soft cushion, but it also makes the pears a little quicker to sunburn. Avoiding bruises, however, is not the principal advantage. He gets fewer windfalls when the hay is spread all over the ground, perhaps on account of less variation of temperature and moisture in the ground between night and day. This practice was begun a good many years ago on account of a proposition made by a Los Gatos man who wanted to buy Mr. Weston's windfalls for the cannery. He stipulated that straw should be placed under the trees, and because Mr. Weston was skeptical as to the value of the windfalls for the cannery, the Los Gatos man even offered to pay for the straw used. It was applied, but later the contract was repudiated anyway, and the pears had to be sold to the dryers, as usual. Mr. Weston thought that the application of straw did not pay, so next year he used none and got an enormous crop of windfalls. That set him to thinking, and the next year straw and hay were applied in alternate rows on about half of the orchard. The rows which had no such mulch had double the number of windfalls.

Pampas Grass Best. — Now, the whole orchard is mulched every year with cheap hay, straw, sweet pea straw from the Morse seed farms nearby, bean straw, or pampas grass. Grain straw has been found too brittle, breaking under the pickers' feet, and a large part of it cannot be used again. It packs, too, and doesn't form as good a cushion as cheap hay. Bean straw and sweet pea straw are good fertilizers and provide a very good cushion, but are not available in large enough amounts.

The best material for Mr. Weston's purpose in the pear orchard is pampas grass which he can use over and over again for several years. It doesn't pack down or wear out, and it is soft enough so that pears are not injured in falling on it. The mulch material is hauled to the orchard and dumped in piles after the last plowing, which occurs when the limbs begin to droop in the way. It is spread out before picking time as thick as the available material may be spread. When the pears are all off, it is raked into windrows by hand and put into big stacks under an open shed. He used to use a horse to rake the hay into windrows, but this did not pay.

EXPECTS 4-CENT PEACHES.

We present below extracts from a letter written by a member of the marketing force of a dried-fruit growers' organization, confirming items recently published in Pacific Rural Press:

"To the Editor: Peaches, we believe, have been sold heavily in the East at too low prices, and as most peach sales have been made for August-September shipment, if growers fully understood the situation they would not need sell dried peaches to packers at the low prices which are being offered—we understand 2½c or even lower.

"In our opinion growers, if they only knew it, have an elegant chance to make packers and buyers pay them 4c. for good dried peahces this year, which have been sold by packers at too low prices without the consent of the growers who owned the peaches when the sales were made by the packers.

"We also believe that with peach prices as low as they are this year, we may find after drying time that not as may peaches as usual have been dried because of the too low prices, which may make short supply and higher prices for peaches when it is known how few are dried."

NURSERYMEN TO HELP AT SAN FRANCISCO.

Meetings of the Pacific Coast Ass'n of Nurserymen and of the California Ass'n of Nurserymen at the San Francisco Civic Auditorium Aug. 12-14 will precede Nurserymen's Day at the Exposition Aug. 16 and other horticultural meetings up to Aug. 25. Consideration of horticultural laws and the ornamental departments of nursery business will be leading features. Following are the papers to be discussed:

Thurs., Aug 12, 1:30 p. m.—Uniform Horticultural Laws, M. McDonald; Recent Horticultural Legislation, A. J. Cook; Crown Gall, H. S. Jackson; Quality and Wider Distribution, J. B. Pilkington; Reminiscences concerning Nurserymen and Nursery Interests, E. J. Wickson

Fri., 9 a. m.—Ornamental Plants, J. W. Gregg; Propagating Prune Trees, S. A. Miller; Preventing Importation of Insect Enemies, Frederick Maskew; Cost of Growing Ornamental Stock, John Armstrong; Seedlings and Stock Grown in America, M. J. Crow; Walnut Industry, Almon Wheeler; Best Paying Shipping Plums, J. E. Bergtholdt; The New Roses, John Gill.

Friday Evening.—Pacific Protective Assn. meeting.

Sat., 9 a. m. — Department Store and Nursery Industry, Ernest Braunton; Recent Rulings re Shipping Plants by Parcels Post, D. W. Coolidge; The Crime of being a Nurseryman, W. D. Somerville.

Sat., 1:15 p. m.—Why Import What We Can Grow? M. McDonald; Do We Need New Varieties of Commercial Fruits? E. J. Wickson; A. Publisher's Suggestions to Nurserymen, Frank Honeywell.

Of the many conventions to be held at the Exposition, 90 are devoted exclusively to the interests and activities of women.

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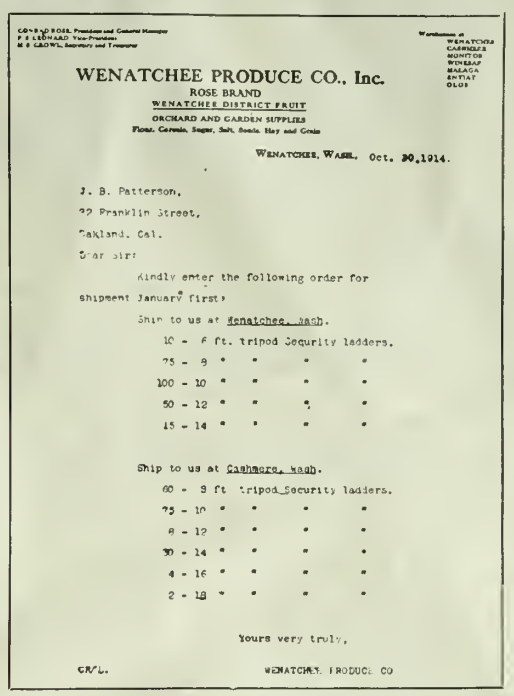
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ENGINE BURNS OIL RESIDUE.

For a number of years manufacturers have been working on an engine that would successfully operate on the residue of refined oils, and have been more or less successful. Some eastern manufacturers have been very successful in the East where the oils are of paraffine base, but when their product has been tried in the West, where oils are of asphaltum base, considerable difficulty was experienced. J. A. Ostenberg of San Jose, who has studied and worked at the engine business in California for the past seventeen years, and before coming to California perfected a well-known Eastern make, has worked continuously to develop an engine that would he within the reach of every farmer, and one that could be understood and operated by every farmer.

As an experiment Mr. Ostenberg built eight of these engines called the Victory Oil Motor, and placed them where they would get good hard service for two years, to test their durability. Now after two years' operation these engines are giving perfect satisfaction in Santa Clara county.

It is surprising how few parts this engine has and how nicely it burns this cheap fuel. One farmer who used one of these engines for six months was asked if it sooted his spark plugs. He stated that he didn't know, because he never had looked at one.

TRACTORS SAVE WHEAT FROM FIRE.

[Written for Pacific Rural Press.]

How two Yuba tractors saved $140,000 worth of grain in 60 minutes from a destructive fire, is an interesting story told in connection with the 20,000 acres reclaimed from Tulare Lake, belonging to a company with F. A. Cleveland of Corcoran at its head.

On July 1 one of the finest grain fields of the tract, including 10 sections of wheat promising 20 sacks per acre, became endangered by a fire which started about a quarter of a mile to the north and was rapidly blown toward the standing grain by a north wind blowing at the time.

He immediately pressed into service the two tractors, coupled with two sections of plows. Plowing the stubble border to beat the fire, ¾ of the distance was covered, but the fire was getting fearfully close to the grain along the remaining quarter. Continuing along the border with one tractor and detouring into the standing grain with the other, he drove tractor No. 1 to the very edge of the fire, then turned abruptly across to the path of tractor No. 2 and joined its race to the levee. When the last tractor, cutting and burying 80 inches of grain and throwing the upturned earth at least another 30 inches, pulled to the top of the levees which form a protection all around the sections of grain fields, flames were scorching the driver's face—but the fight was won.

USES OF PORTABLE ELECTRIC MOTOR.

[Written for Pacific Rural Press.]

A portable electric 20 h.p. motor for use on a big ranch is owned by Thornton Glide of Yolo county. Just now the motor is being used in an alfalfa field at a considerable distance from the farm buildings. Shortly, it will be brought back in a cart and set up on a permanent base to cut silage and feed.

The base is made of two 8x8 timbers, 16 or 20 feet long; 4x4 iron hollow supports are bolted to these, having slits in the upper side through which holts project. These holts go through holes in the base of the motor and are quickly adjusted.

When silage or first crop alfalfa chopping are to be done, the machine is bolted to the other end of the 8x8s and run by a belt.

When there is wood or kindling to cut, a circular saw is put in the place of the feed cutter with very little work.

NUMEROUS USES OF LINE SHAFT.

[Written for Pacific Rural Press.]

A line shaft run by a gas engine in a pump house provides opportunity for a variety of operations on the farm of L. S. Wing of Yolo county.

The first pulley wheel on the line shaft runs a pump for water to be used about the place; the second wheel used to run the separator by means of a belt through a partition into the next room, but the whole milk is now sold so the separator is not used; the next wheel might be connected to a threshing machine and the next one to a grindstone, both of which are in place permanently. The last wheel was designed to run a coffee grinder.

Mr. Wing does not use all of this equipment now because it is some distance from the house; but he says it was always satisfactory while there was someone at home who could handle the machinery.

Mr. Hopkins—They say most soap nowadays is made of dead horses.

Mrs. Hopkins (musingly)—Well, I wonder; that must be why the children kick so at being washed.

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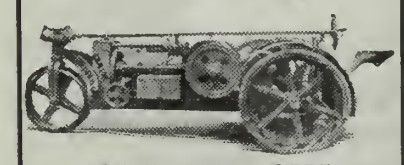
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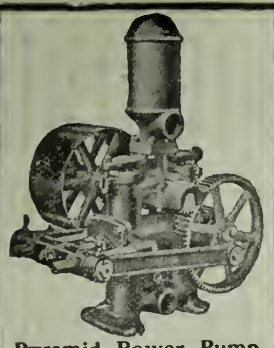
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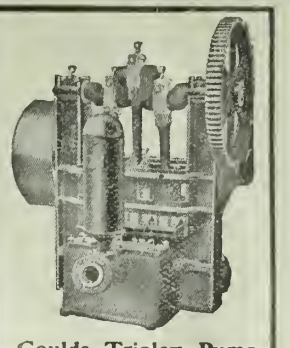
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MOTOR RUNS MILKING MACHINE.

A 7½ h.p. electric motor permanently set beside the cow barn of L. S. Wing of Yolo county runs the vacuum for the milking machines and may be hitched by a belt to the silage and alfalfa chopper by which the barn and the silo are filled with first-class feed for the dairy herd.

A TALE WITH A MORAL.

"We need some corn this morning, father," said Harry Morris of Yolo county, about five miles out of town.

"All right, I will go and get it," said the father, and in a minute was speeding away in the automobile. In less than an hour he was back with a plenty.

HOME-MADE SALOON.

To the married man who cannot get along without his drink, the following is suggested as a solution to the bondage of habit:

First—Start a saloon in your own house. Give your wife $2 to buy a gallon of whiskey, and remember there are 69 average drinks in a gallon.

Second—Be the only customer and you will have no license to pay.

Third—Buy your drinks from no one but your wife, and by the time the first gallon is gone she will have $8 to put in the bank and $2 to start business again.

Fourth—Should you live 10 years and continue to buy booze from her, and then die with snakes in your boots, she will have money to bury you decently, educate your children, buy a house and lot, marry a decent man and quit thinking about you."
—Mrs. J. H. Harrell.

SCORED TREES FROZE WORST.

The only damage in the Mission district of San Fernando valley during the big freeze, according to H. E. Wilkinson, was where the trees had been "scored." The bark on some trees had been slit up to the head for gum disease, hide bound bark, or other reasons. On these trees, the bark froze, or dried, almost free from the tree; and in a few cases the wood itself slit wide open an inch or two. Mr. Wilkinson does not believe in "scoring" except when the tree is hide bound or gummed.

The Farm Bureau of Glenn county has been collecting data in each farm center relating to the extension of needed electric transmission lines for power and the lighting of farm homes. Maps and other information has been prepared by the farmers showing individual needs throughout the county. Operating companies in the county have already expressed their desire to give the wants of the farmers most careful consideration.

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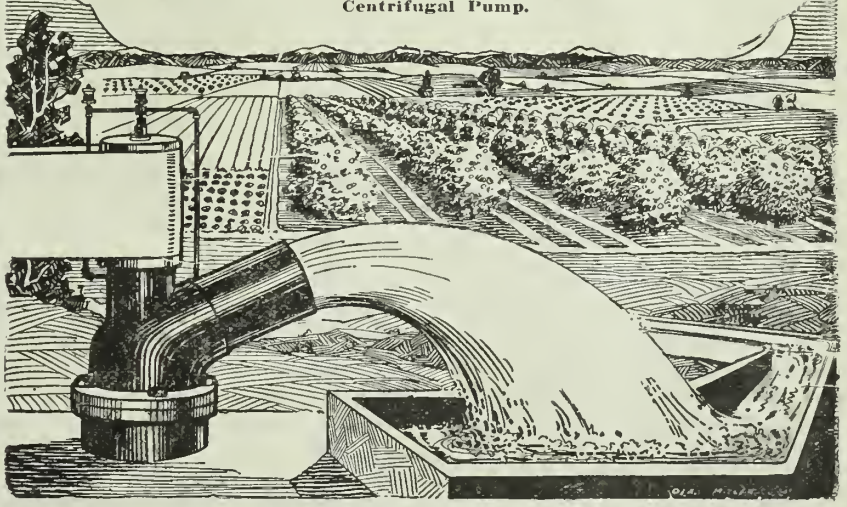
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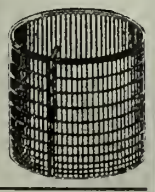
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General Agricultural Review.

CITRUS AND SEMI-TROPICAL.

Orange groves of the San Joaquin valley are suffering from katydids.

Fresno orange prospects are about 60 per cent, according to Horticultural Commissioner F. P. Roullard.

Orange county Valencias are 90, Navels 40, and lemons 90, as reported by Horticultural Commissioner R. K. Bishop. The fruit is well set and is past the usual drop.

Meetings of citrus growers are being held this week and next at a number of places in Southern California. The principal subject, according to C. S. Vaile of Claremont, is cover crops. Fumigation is another.

OLIVES AND NUTS.

Last year the output of the Davis Almond Growers' Association was 90 tons.

The Walnut Creek walnut growers have a much larger crop than last year. Aphis is worse but blight is better than usual.

The California Ripe Olive Growers' Ass'n, organized March 31, met at Oroville July 31 to discuss protective and boostive measures.

The date of the Esparto Fall Almond Festival has been changed from September 25 to September 4, in order that Capay valley almonds may be shown at the Panama-Pacific Exposition in September after they have been exhibited at the festival.

Melaxuma of walnuts has done considerable damage to trees in Santa Barbara, Ventura and part of Los Angeles counties. Its cankers must be cut out and the scars disinfected, preferably with Bordeaux paste, according to Prof. H. S. Fawcett.

At the annual meeting of the Davis Almond Growers' Association held recently, the former officers were re-elected: President, G. W. Pierce; vice-president, O. B. Wilber; secretary and treasurer, Miss Louise Schmeiser; and representative to the State Exchange, G. W. Pierce.

DECIDUOUS AND DRIED FRUITS.

Tuscan peach canning at Selma is nearly over.

Sonoma county apple driers are very busy.

Prunes have been cracking badly in Santa Clara and Napa county orchards.

Italian imports of all kinds of our dried fruits, especially prunes, are on the considerable increase.

The Lincoln (Placer county) cooperative cannery is reported to have started the season's operations.

Pear rust mite has discolored the leaves of many Lake county trees this season. It is not regarded with alarm.

Offers of 3¾ cents for prunes and 8 cents for dried apricots were reported at the Grange meeting in San Jose last Saturday.

Big purchases of fruit are reported being made in the United States by representatives of large Argentine and Brazilian fruit companies.

The Monterey apple crop is estimated by horticultural commissioner to be even less than his recent 60 per cent figure.

Ontario, which produces about 61 per cent of the Canadian apple crop, will have a much smaller crop this year than last.

"Standard," "Fancy," and "B" are the three grades announced for apples packed by members of the Watsonville Apple Distributors.

A steamer load of California products including 60 carloads of dried fruits and raisins and 25 carloads of canned goods left this week for New York.

About ⅔ of the Shasta county prune crop of 1500-2000 tons is still in growers' control as reported by horticultural commissioner G. A. Lamiman.

About half of the 73 per cent Fresno county peach crop is still in the growers' control, according to Horticultural Commissioner F. P. Roullard.

Over a million deciduous nursery trees were inspected for Sonoma county this season, by Horticultural Commissioner O. E. Bremner. Only about 5 per cent were condemned.

Three carloads of Watsonville apples were shipped this week to Buenos Ayres. The same port is to take 20 cars of Sonoma county Gravensteins, to be shipped via New York.

Humboldt county apple growers have arranged a trial shipment to San Francisco of 1000 boxes of fancy quality. More later if the grading is O. K.

A number of Tulare peach growers organized last week to join the Tulare Growers' Ass'n which will can their crop. This is another one of several locals in the Ass'n.

About 900 tons of dried apricots are estimated for the Vacaville district. The drying is all done. Buyers there are offering considerably less than in Santa Clara county.

Apricots are rapidly replacing peaches in the Kerman district on account of prices and root knot, according to E. O. Amundsen. Lovell peaches are over full while Elbertas are about ¾ crop.

Half of the Jefferson plums in Sonoma county were lost by brown rot and about ⅓ of the prunes. San Benito county Moorparks were as bad or worse on weak, sick trees which have had a struggle with borers, aphids or other pests or diseases.

GRAPES AND SMALL FRUITS.

In the Kerman district Thompsons are reported a full crop and Malagas 70 per cent.

The fourth annual St. Helena Vintage Festival will be held Sept. 3, 4, 5, and 6.

The Selma Fruit Co. is reported to have started seeding raisins for a 15-carload order.

Over 2500 tons of 1914 raisins were sold last week for export to Europe. This is regarded as the forerunner of large orders.

The botrytis fungus worked on San Joaquin county grapes this year just enough to thin the berries, leaving the bunches practically full of large-sized, finest quality grapes.

The packing of Thompson Seedless grapes has commenced at the plant of the Stewart Fruit Company at Sanger; the company will ship out about 20 cars.

Postal cards in boxes of berries shipped to the central West through the Sebastopol Berry Growers for R. W. Thompson brought reports of arrival at several points in finest condition.

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GRAIN AND FIELD CROPS.

Orange county sugar beets and beans are estimated at 20 per cent by the horticultural commissioner.

The 300 acres of the Carmel Cattle Company ranch at Wasco is said to have produced 23,000 sacks this season.

The Imperial Valley melon season is almost over; the shipment of 4726 cars of cantaloupes and 762 of watermelons broke all records.

The farmers of Fallon, Nev., are trying a new scheme, and that is drying and sacking grasshoppers for use as chick feed next spring.

Sweet potato crates have been breaking in shipment. A new railway rule requires that they be reinforced with iron or wire strips.

Cooler weather is said to have checked the shipments of melons from the Turlock district, reducing the daily average to 36 cars instead of 50.

Ninety bushels per acre of field corn from 200 acres in the island country of San Joaquin county was made last year, according to Farm Adviser F. F. Lyons.

It is reported that the Chualar district of Monterey county will have a larger yield of sugar beets this year than ever before, 18 to 20 tons per acre being expected.

The second crop of alfalfa in the Fallon, Nevada, district, is reported to be about harvested, with a two thirds to three-fourths crop on account of damage done by grasshoppers.

A corn contest is being carried on by members of the Agricultural High School Clubs of Orland and Willows; the former raising it on irrigated land, the latter under the dry land method.

On account of the large numbers of watermelons being marketed from Turlock, a slump has taken place in the Dinuba market; the price has gone down to $3 a ton from around $15.

A co-operative association for the purpose of marketing their product is being considered by the Richvale rice growers. The prospects are for the largest rice crop ever raised in that section.

A 30-acre cornfield near Terminous, San Joaquin county, yielded 1100 bags of 140 pounds shelled corn last season. Field corn planted there last May is now well tasseled.

One hundred and five thousand dollars for water to irrigate 15,000 acres of rice land in Glenn and Colusa counties has been offered the Sacramento Valley West Side Canal Company by rice growers of those counties. It is yet undecided whether the company will accept the proposition.

The Winter Vegetable Union was formally organized at San Diego on July 24, with 44 members to date, signing an acreage of 101 acres. The following men constitute the Board of Directors: W. R. Edwards, Chula Vista; H. Culbertson, El Cajon; W. M. Sharpe, Otay; J. S. Hull, Nestor; E. L. Owens, La Mesa; I. C. Robinson, Spring Valley; and J. S. Scott El Cajon.

MISCELLANEOUS.

The South San Joaquin District will hold a Community Fair at Manteca on October 8 and 9.

On July 29, the Stanislaus County Farm Bureau, composed of sixteen branches, held its first meeting with Farm Adviser Chas. M. Connor.

E. O. Amundsen, Farm Adviser for the Fresno Farms Co. of Kerman, is elected Farm Adviser for Placer county.

Members of the Agricultural High School clubs of Willows and Orland were recently visited by R. N. Hagen, Asst. State Leader in Boys' Agricultural Clubs.

Agriculture is to be included in the course of study at the Fresno Normal School this coming school year. A practical course has been taught under difficulties on the new grounds of the Los Angeles Normal during the past year.

SUGAR PRUNE ON PEACH.

To the Editor: I am budding over four acres of seven-year-old freestone peaches to sugar prunes. I cut back the trees and am budding on the sprouts. I have been told I was making a mistake by budding to sugar prunes as they would not do well, as the affinity was not right between the peach and sugar prune. Am I making a mistake? — J. V., Morgan Hill.

[This is one ahead of us. We have always considered the peach good for the sugar prune, when working-over is well done. We shall be very glad indeed to have reports of ill behavior if others have experienced it.—Editors.]

Molasses will catch more flies than vinegar, but who wants to be a fly-trap?

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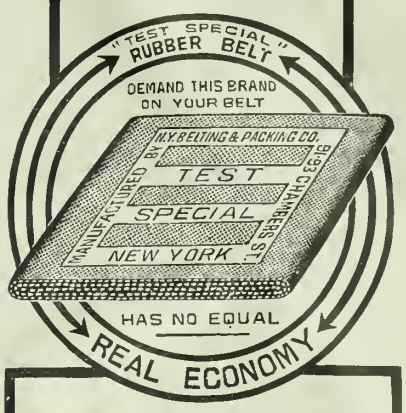
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THE American Jersey Cattle Club wishes to obtain all the reliable data possible, as to what grade Jersey cows can do as butter producers. Such material will be very useful in demonstrating the great desirability of using pure-bred sires in ordinary dairy herds. If owners of grade Jersey cows can be induced to join testing associations and secure yearly butter fat records of such animals, a great deal of valuable information can be thus obtained for use by the club.

We hope to gather in the near future new, live material for advertising purposes, and shall endeavor to adopt an advertising policy that will make farmers not only think and talk about the Jersey cow, but convince them that she is the cow they ought to have. I am thoroughly convinced that if the vital convincing facts which can be obtained as to what the Jersey cow can and will do under ordinary everyday farm conditions, can be brought home to the attention of the dairy farmer, we can knock the very last life out of the word "but," that we so often hear now, when we attempt to discuss the Jersey cow with the dairy farmer in a community where other breeds are found.—W. D. Munn, New President of the American Jersey Cattle Club.

California's First Colt Show.

[Written for Pacific Rural Press.]

The local colt and horse show idea which was first advocated in California by the California Draft Horse Breeders' Association, is to have its first try-out at Rio Vista September 9. Through the aid of the Solano County Farm Adviser, at the suggestion of the State association, and by persistent work on the part of prominent horse breeders of Solano county, $400 has been subscribed to pay for prizes and entertainment. The Chamber of Commerce of Rio Vista and the Women's Improvement Club have also joined forces, and horse, finances, and publicity committees have been appointed.

According to Dr. A. F. Hanna, a member of the committee of five appointed by the Solano Farm Bureau to work up a horse show at Rio Vista, more mares have been bred in that vicinity the past year than any other one year in the past 20, and if all of the animals that have been promised are brought to the show, the town will be full of horses.

The show will be open to all comers and exhibitors of draft stock only, and it is expected there will be at least 80 head exhibited. There are about 20 local stallions available, 17 of which are purebred, and there is a great deal of high grade stock in the Montezuma hills and the river islands between which Rio Vista holds a commanding position. At least three Jacks are expected to compete and four men will show purebred draft mares.

Cash prizes only will be offered and there will be no entry fees. The committee hopes to secure a judge from the Panama-Pacific Exposition, and the stock show and judging will commence at 10:00 a. m.

In order to provide amusement for visitors, water sports, boxing, and other amusements are programmed for the afternoon and evening.

They propose to make the horse show an annual event, as the territory adjacent to Rio Vista is one of the large draft horse growing sections of the State; and by holding such shows, farmers and breeders will receive valuable information as to the best types, conformation, and breeding of draft stock.

Colt classes and boys' judging contests will be among the more important features. The committee is now at work making out the classifications, which will be published in these columns as soon as available.

For the benefit of those competing and attending the show, the committee advises us that visitors can get to Rio Vista by boat from either San Francisco or Sacramento, or by the Oakland and Antioch railroad, taking the stage from the railroad to Rio Vista direct. Automobile roads are also in fair condition for that class of travel.

STARTING A PURE-BRED HOG HERD.

"I am frequently asked for advice about starting a herd of purebred hogs in California," said W. S. Guilford, Director of Agriculture of the Sacramento Valley Irrigation Co. at Willows, California, an authority on hog growing, to a Pacific Rural Press representative.

"The breeders of purebred hogs in this State are progressive, and are producing as fine representatives of the various breeds as there are in the country. The foundation stock for the herds here has been selected with good judgment from the best herds in the East, and conditions here make it possible to constantly improve. Any desiring to buy purebred hogs can go to our best breeders and be confident that they can secure meritorious animals at reasonable prices," he continued.

"I know of one man who went to a California breeder for a small foundation herd and was priced a number of animals at modest prices. He did not buy them, but sent an order to the east, paying three times as much per head for individuals that, while good enough, and undoubtedly worth the money, were not as good as the home-bred ones, which by comparison were great bargains. This was demonstrated by the fact that the California animals were winners at one of the leading fairs in classes where the eastern hogs were not in the money. I do not mean by this that many high-class animals are not brought out from the East, for our breeders make frequent selections from the leading herds there—but the beginner, who does not want to go East to make his selections, and pay the high express rates, can buy satisfactorily from the local herds. I saw a lot of Berkshires recently at Butte City Ranch in Butte City, in Glenn county, that had been selected from the best herds in California and they are very superior individuals.

"The demand for purebred hogs in California is very good and the business of breeding them offers splendid opoprtunities for those who are equipped to breed and grow them properly and will advertise and conduct the enterprise as it should be."

ANNUAL WOOL SHEARING.

To the Editor: The following is a communnication, dated June 30, received from Mr. S. B. Hollings, wool expert, Bradford, England, with reference to two fleeces of cross-bred wool that I sent him May 15, 1915, in order to get an expert opinion regarding the spinning count and the valuation, for comparison with U. S. prices. The fleeces were from Thornton Glide's flock at Davis, Calif. One was a Dorset-Rambouillet cross and the other a Shropshire-Rambouillet cross. The fleeces were of spring lambs that had been shorn in August and then again in March. The second clip, August to March growth, is the one in question.

Re the Dorset Horn-Rambouillet hogget. I like this by far the best. The staple is more compact, it shows 56's quality, which is really fine half-bred, and is a valuable fleece. The worst feature is the shortness of the staple. This should be at least four inches long, but being shorn last August and in March accounts for the shortness. It is most difficult to say the exact price of this fleece in London, but conclude it will be worth 32 to 34 cents per lb. In fact if it were longer and more like a twelve months grown fleece, such as we get from New Zealand, it would be worth today from 38 to 40 cents.

Regarding the Shropshire Rambouillet fleece, this is only 50's quality, the staple is more loose and fuzzy, and would go for lower class yarns. The value here is about 2c. per lb. less than the previous fleece. It is lighter in grease, but it lacks a little compactness.

I might say that both fleeces are essentially hosiery wools, although the first named could be easily used for carded woolens. Were I the owner of this flock I should discard both these crosses and on my Merino ewes I should use either the Romney Marsh, Lincoln, or Leicester ram. You would then get a bigger sheep, more valuable for mutton purposes, and I think on the whole a more valuable fleece of wool.—S. B. Hollings.

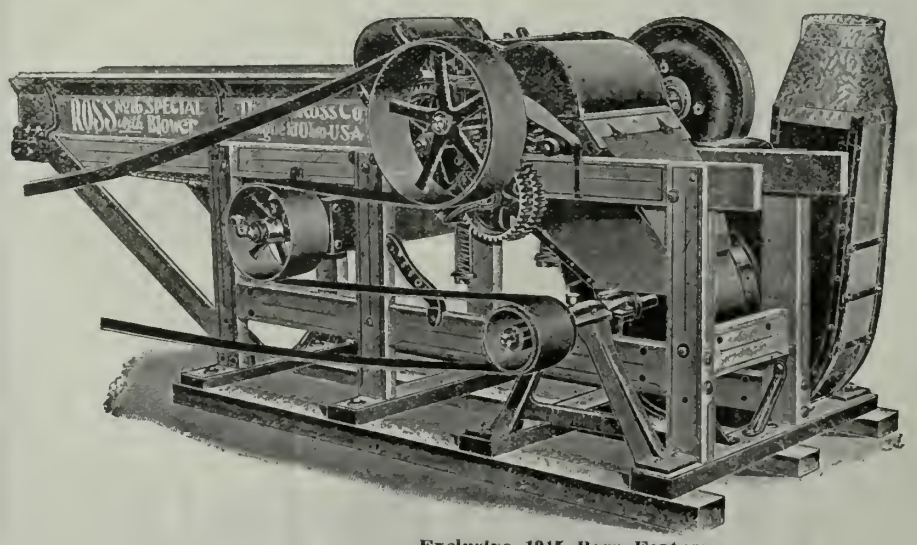
The above letter certainly has some points of interest to the wool grower of this country. In the first place, Mr. Hollings estimates that this wool would be worth 6 to 8 cents per lb. more were it of normal length or 12 months' growth. Wouldn't it be worth while to consider shearing once a year? He also terms it a hogget, although it has been shorn twice.

The most important item, however, is the different prices quoted in England and America. Similar wool in this country at the present time is selling for 24c. a lb. or a difference of 8 to 10c. in favor of Bradford prices. At that rate wool growers could almost afford to ship by parcel post and make money. There is a joker in the wool business. How can we get him out?

Note that Mr. Hollings strongly recommends the long wool, Romney Marsh, Leicester or Lincoln cross in preference to a Dorset or Shropshire.

Robert F. Miller.
University of California.

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IF THE United States should be able to keep out of the war—and the indications are that it will not become involved—this country is likely to attain a position of supreme commercial importance before hostilities abroad are at an end. As indicating how remarkable the foreign trade figures are, for the fiscal year ending with June, it may be said that the excess of exports over imports this year was more than double that reported in the same months of 1914, while the largest previous export excess shown was $666,431,000 in 1908. What is very striking—and contrary to what has been generally regarded as the compelling influence—the unprecedented export balance this year was scarcely accounted for at all by 'war orders.' It was due primarily to the huge exports of grain and cotton."—Wells-Fargo Nevada National Bank, San Francisco.

Organization to Aid Stock Feeders.

To the Editor: The article entitled "What Thinking is Doing for Beef" appearing in the Press issue of the 17th ult. is one full of suggestion for the development of a great unorganized industry of the State. This subject has occupied my thoughts and has been a matter of study for the past two or three years in connection with my work. Do you not think that the time is ripe for the starting of an efficient organization that would "couple up the links between the breeder and the feeder," that would connect the unfed hay stack with the unfed "critter"? Of course, the problems are different, but I believe the meat industry would benefit by organization in its own way quite as much as have the citrus, raisin, and almond industries. Inasmuch as the Press has come to be a recognized factor in promoting the rural interests of California, I believe it could do a great good right now in assisting the birth of a California meat growers' association. I believe it could be made a clearing house of information and assistance to the small feeder and others that would at once effect the upbuilding and increase of the State's output. I would enjoy the further pursuance of this matter with you.—**Wm. Curtis Clark**, Oakland.

[Your suggestion of starting an efficient organization that would couple up the breeder and feeder is timely, as any one who is at all familiar with the alfalfa marketing problem in California today will admit.

As we have previously pointed out, it is no longer a problem of getting alfalfa growers interested in finishing the beef steer, but rather how to furnish them with feeders of the right kind.

Just what kind of a distributing and marketing system would best meet this growing demand is a much mooted question, but it is certain that the one now in vogue will not permit of much development along the lines previously outlined.

In the East, the union stock yard plan has furnished machinery for the buying and selling of feeders as well as the finished steer in large or small quantities by opening avenues for the commission merchant and livestock broker. Their markets have been the assembling point for all meat animals where the stockman could ship one or a hundred cars to market, receiving the market's quotation, less the charges of the commission man who handled them. This condition has also made it possible to assemble feeders at a central point from where they can be purchased in quantities to suit the farmer's condition.

It also has made it possible for the farmer to sell his feed through the steer without tying up any considerable amount of money. This is accomplished by the commission man or livestock loan company retaining ownership of the stock when shipped to the farmer, and requiring that it be consigned to him for marketing in its finished stage.

Theoretically at least, that system is preferable to ours for the reason that it creates a central distributing point and furnishes means for livestock loans, the two factors most badly needed by the farmer who would finish cattle in this State.

Whether the union stock yards' plan is the ideal one or not—and it should be said that our cattlemen do not generally think it is on account of the claim that it aids monopoly—it certainly solves many of the factors that are now confining the beef cattle industry of the State to the mountain range. For the welfare of the State, this should not be so.

The Rural Press will be glad to aid in any practicable solution of this problem, and courts a free expression of opinion from those of our subscribers who have convictions on the subject. As we previously pointed out, it is one phase of the livestock industry which is demanding thought—and thinking is the best thing on earth if done before action is taken rather than afterward. We feel it our duty to provide space on any agricultural subject that is the result of thought, even though it may not always meet with our own views, so our columns are opened for further discussion on this subject.—Editors.]

MILK AND MILK PRODUCTS LAW.

[Written for Pacific Rural Press.]

New laws are always more or less of an experiment until they have been put into practical operation, and such is the case with Assembly Bill 1549, which will take effect October 1, 1916, and whose object is to regulate the sale of all milk and milk products, except cheese, for human consumption.

The law proposes to prohibit the sale of any milk, cream, or by-products (except cheese) which have not been pasteurized by the holding process, or which were produced from other than tuberculin-tested cows, except to the wholesale trade.

Much adverse criticism of the law has been brought forward on the ground that it favors the large producer, who has sufficient capital to warrant the installation of pasteurizing plants, but works a hardship on the small dairyman who cannot afford the overhead expense of such a plant.

From the layman's viewpoint, the law would appear to work out in this manner: The dairyman who sells his milk to the city wholesaler will not be affected, as it is up to the wholesaler to pasteurize before distributing. The dairyman who sells milk direct to the producer will be required to either pasteurize or test his cows for tuberculosis. In most cases, it is probable that the latter method will be practiced, especially on dairies not large enough to warrant the installation of expensive pasteurizing machinery.

The law applies to by-products, including butter, and creameries will be required to pasteurize all cream used. This leaves the butterfat dairyman in practically his present position, except where farm butter is being made, in which case the dairyman will be placed in the same position of the larger creamery.

Where whole milk is being sold, it will be graded into four classifications: namely, certified, guaranteed, Grade A, and Grade B.

The law allows for an appropriation of $10,000 with which to defray the expense of inspection work, part of which will be done by the State Dairy Bureau and part by the State Veterinarian or his assistants.

Those desiring more detailed information regarding the law should write to Legislative Bill Clerk, State Capitol Bldg., Sacramento, for the law in full.

Yolo county dairymen recently attempted to secure a condensary. In working it up, data on available milk were secured. One herd of 90 cows was producing 14 cans daily. another of the same size was producing 50 cans or 500 gallons daily, though only ¼ of the latter cows were mature and ¼ were with their first or second calves. This dairyman has built up his herd by testing cows for butterfat and breeding from the high producers only.

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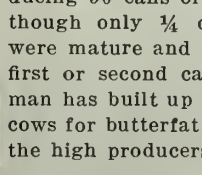
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Pacific Rural Press

525 MARKET STREET,
San Francisco, California.

With the Live Stock Men.

DAIRYING.

San Francisco has been sending butter to Hongkong, via Sydney. This trade was formerly supplied by Australia.

The herd of Holsteins belonging to Heenan and Weldon of Sacramento will be sold at auction at Hanford September 15.

A Blanchi, who has been running a dairy and cheese ranch on the Stanislaus river, has bought the J. W. Watters ranch near Ripon.

H. G. Armstrong and Albert Welch of Woodland, who recently sold their milking herds, are going into the game again with young stock.

Choice of 100 registered Holsteins may be had Sept. 15 at the auction dispersal sale of T. J. Gilkerson of Stratford and Heenan and Weldmon of Sacramento, to be held at Hanford. Mr. Gilkerson expects to stay in the Holstein game.

A Holstein consignment sale will be held at Hanford Oct. 12. Among consignors are Hewitt and Hewitt of Hardwick, R. F. Guerin of Visalia, Alex. Whaley of Tulare, and J. McAllster, who is the sales manager. Ben Rhodes is the auctioneer.

The Woodland Farm Dairy sold at auction last Saturday its 200 Holstein-Guernsey cows, a Holstein bull, a Berkshire and a Duroc boar, and 40 brood sows. Fourteen horses and mules and 125 hogs and pigs were also sold. Nearly 900 people attended.

From the University of Missouri comes the report that Carlotta Pontiac, a Holstein owned by the Dairy Department of the University, has made what is believed to be the best three-year milk record ever made in that state. She has made an average yearly production for three years of 22,658 pounds.

The Gridley Cow Testing Ass'n has revealed the value of a Holstein which yielded 79.4 pounds fat in 30 days for T. F. Bonness. Kaiser Bros. of Biggs have a cow that yielded 62.16 pounds, and John Guill of Chico one that produced 54.11 pounds. One belonging to H. Wickman of Gridley made a record of over 50 pounds.

The following animals will be among those to be sold by McAlister & Son of Chino and A. W. Morris & Sons of Woodland at the State Fair Grounds, Sacramento, October 6 and 7: Uneeda Korndyke Abbie and Abble Korndyke Segis, both daughters of Johanna McKinley Segis, who sold for $25,000 and whose dam, Johanna De Kol Van Beers, is the world's record cow for 120 days, and she sold for $7,000, the highest price ever brought by a cow at public auction. The first of these cows consigned is the second highest daughter of her noted sire for both milk and butter, making over 28 pounds butter and 618 pounds milk in seven days, and the second cow has been proclaimed by men who know her as the best individual daughter of Johanna McKinley Segis; she recently made over 21 pounds butter as a three-year-old. Winnie Korndyke Cornucopia De Kol, a daughter of Aaggie Cornucopia Johanna Lad, the greatest sire of milk producers for seven days, is herself his second daughter, making 668.9 pounds milk in seven days and 98½ pounds milk in one day, will be sold. There will be over thirty other A. R. O. cows besides these in their consignment, each with a good record; and they will also offer the buyers at this sale an opportunity which has never been presented before at any public auction. They will sell about 20 granddaughters of King of the Pontiacs, sired by one of his very best bred and best individual sons, King Pontiac Topsy.

HORSES AND SWINE.

Thornton Glide of Davis is raising a big field of corn to finish his 90 hogs, and another bigger field to fill his silo.

E. W. Westgate of Rio Vista has given each of his boys a colt to raise. He believes horse shows should have boys' judging contests.

A. L. Stephenson of Los Molinos recently sold 17 pure bred Berkshires a month old, for $175, to the Butte City Ranch.

Napa is to have a colt show in connection with its Vintage Festival. Henry Wheatley will show his Shires and other purebreds will be there.

More mares have been bred in the Rio Vista district the past year than in any one of 20 years before, according to Dr. A. F. Hanna.

Pigs ought never to be grown on alfalfa or grass alone according to Farm Adviser N. P. Searles of Yolo county. It makes them potbellied like a drum with four legs on it.

An eight months purebred Berkshire sow was recently sold by A. L. Stephenson of Los Molinos to Mr. Hannan of Corning for $75. She weighed 305 pounds.

Ten purebred large type Poland-China hogs have been recently shipped to Honolulu by W. D. Trewhitt of Armona. These hogs will be used as a foundation for a herd. He has about 160 left.

Two cars of mules were recently purchased in the San Joaquin valley by C. Bailey of Hanford, representative of the purchasing agents of the European armies. It is said that $120 each was paid for the mules in the shipment.

There is a movement on to organize a new cow-testing association composed of about 700 Yolo cows and 300 Solano cows. The previous association in Yolo county was showing fine results when it discontinued recently because several of the largest dairymen sold their herds.

A dairyman fed his pigs skim milk and they developed a cough and thinness of meat. He killed some of them, found their organs rotten with tuberculosis, bought some more, sterilized the skim milk with steam before feeding it, and the new lot of pigs thrived as well as anybody's.

"We haven't been as successful fighting hog cholera as the other livestock diseases, because it is so difficult to get people to clean up

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DAIRY CATTLE.

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HOLSTEIN BULLS—Pure-bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

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FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

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REG. GUERNSEY BULLS for sale. Grapewild Farm, Mayhews, Sacramento county, Cal. A. B. Humphrey, Prop., P. O. Box P.

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REGISTERED GUERNSEYS—Both sexes for sale. Mrs. Charles G. Lathrop, Stanford University, Cal.

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SUNNYSIDE HERD—Registered Holstein cattle. B. F. Guerin, R. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma.

A. R. O. REGISTERED HOLSTEIN BULLS for sale. Millbrae Dairy, Millbrae, Cal.

BREEDERS OF REGISTERED HOLSTEIN CATTLE—McAllster & Son, Chino, Cal.

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PURE-BRED Registered Percherons—A few choice young stallions two years old; also two, three and four-year-old fillies, majority in foal, for sale. Los Altos Stock Farm, Los Altos, Cal.

BEEF CATTLE.

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REGISTERED BERKSHIRE SWINE—All ages, for sale. Grapewild Farm, Mayhews, Sacramento, Cal. A. B. Humphrey, Prop., P. O. Box P.

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IMPERIAL STOCK FARM BERKSHIRES—Quality and price guaranteed to satisfy. R. J. Merrill & Son, Morgan Hill, Cal.

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BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers, Shropshires.

MISCELLANEOUS.

OWING TO THE MANY requests of our customers to give them information as to where they can buy or sell dairy stock, we have established a livestock bureau in connection with our office. For anything in this line, write us. V. A. Peterson Alfalfa Seed Co., Arbuckle, Cal.

BREEDER of Registered Holsteins and Poland China Swine. E. E. Freeman, R. 5, Modesto, Cal.

their cholera-infected places," says State Veterinarian Chas. Keane. He plans to engage in a systematic statewide campaign within a few weeks.

N. C. Anderson of Rio Vista breeds a dozen mares annually, aiming to sell two or three span per year. These bring $650 to $700 per span at the ranch. He used Percheron sires until four or five years ago, since when Shires have had the preference on the high grade Percheron mares of his own raising.

The Farm Bureau of Glenn county is making a census of the hog and dairy industries through the various farm centers. From the information collected live-stock associations are to be formed. Among other things these associations will undertake to aid the purchase of purebred stock from the outside, will combat and try to keep out various contagious diseases, will interest itself in the interchange of livestock, the formation of cow-testing associations and in the marketing of live-stock products.

A purebred Berkshire boar was obtained from G. A. Murphy of Perkins and a purebred sow from A. B. Humphrey of Mayhews, by A. F. Leifer of the Natomas Consolidated reclamation district north of Sacramento a little over a year ago. He now has eight purebred young sows, has sold several boars already, two of them late in July. He plans to buy the best boar he can get for the young sows, "for it is as cheap to raise purebreds as grades" and lots more profitable. Mr. Leifer still has several head of high grades, which he will work out of, as fast as he can build up the purebred herd. Alfalfa and barley are the feeds. This is one way to get started in purebreds with very little capital. Some of this stock will very likely be at the State Fair next year.

CATTLE AND SHEEP.

Coyotes have been eating sheep in the Geyserville district of Sonoma county.

Coyotes are the cause of B. J. Reilly replacing his sheep with cattle, near Ukiah.

A Shorthorn view herd was recently sent to the Panama-Pacific from Omaha.

The Hopland Ranch has two purebred Shorthorn heifers at the Exposition.

Emery Fraser recently bought 2700 sheep, the whole outfit of a Mendocino county man, to be fed in the Rio Vista district.

A trainload of cattle was recently shipped to the Kansas City markets by Mitchell & Turman of Glenn county.

The San Joaquin dairy exhibit in the California building contains a pair of steer horns that measure six feet across.

Snails taken in the drinking water clogged the livers and killed about 400 sheep for Simpson Finnell of Yountville, Napa county, during the past two months.

Claude Keeran of San Antonio, Tex., has been visiting his birthplace near Stockton. He is a large cattle holder at home.

Le Grand was the shipping point for six carloads of about 170 cattle recently. W. G. Turner and the Raynor Bros. were the shippers.

Joseph Clark of Mendocino county has sold 10,000 pounds of spring wool at 29 cents, the highest price paid in years.

Peter Cook says that one who raises 3000 acres of grain ought to have lowland summer pasture and highland winter pasture for 5,000 sheep which would be fattened on the waste grain.

Cattle are especially fond of sudan grass if it is cut for hay immediately after the heads come out, according to E. C. Voorhies of University Farm. Its stalks are then full of a sweetish juice.

Selling beef cattle to the local meat market at Ukiah proved profitable recently for E. M. Coble of Potter valley, who sold four, the English Ranch people who sold 20, and the Gibson Ranch of Two Rivers, whence came 60 head.

"No danger but that the small farmer can sell his surplus sheep to the local butcher," says Peter Cook of Rio Vista. This is exemplified by the sale to Chas. Ward of Ukiah of 20 head each, by E. Gambrel and Leslie Crawford.

That show condition for bulls is not considered breeding condition by Thornton Glide of Davis, is proved by the lack of covering, which makes 7-year-old King Lancaster, thrice grand champion at the State Fair, look rather rough but "in best breeding condition now."

MISCELLANEOUS.

A local livestock and farm products fair is to be held at Manteca Oct. 8 and 9.

The Kerman district of Fresno county is getting more stock to eat low-priced alfalfa—$4 per ton at the mill.

The Union Stock Yards Co. of Chicago is offering prizes of $50, $40, $30, $20, and $10 for the best fed cattle, sheep and hogs raised by boys under 16 years old.

Loose alfalfa is selling at $4 to $5 in the field around Tulare. Shipments of 8 to 10 cars daily are said to be made to New York from Goshen.

A representative of the Napa Dairymen's Association is in Santa Rosa to secure 300 cows for the association. It now has 700, but to pay best there should be 1000 animals in the association.

Fruit, grain, and stock are to supplement each other on the 550-acre D. W. Ide ranch out of Red Bluff, recently purchased by Dr. E. E. Thompson of Red Bluff and W. H. Samson of Corning. Cattle and sheep on the grazing land, pears and prunes on 100 acres, grain on the rest.

Cattle, calves, and sheep are said to be sacrificed to butchers in England on account of high prices of feed. It is reported that breeding stock is going too. Great opportunity for purebred livestock breeders of America to restock them after the war. It is suggested that breeders be paid a subsidy to keep herds intact.

REMEDY FOR SORE EYES.

[Written for Pacific Rural Press.]

"Feeding cattle first crop alfalfa in overhead racks is exceedingly dangerous to their eyes, for the foxtail beards penetrate and very often start a cataract-like growth which sometimes makes the animals entirely blind," says E. C. Voorhies of the University Farm.

"Sometimes these beards can be pulled out with forceps or even with the fingers. If the growth has started, the best thing in the world to do, as we have worked it out here, is to put a little iodine on a piece of cotton, if the growth is bad, and just touch it; be careful not to get too much on or it will burn the eye and blind the animal.

"As soon as the iodine is on apply three or four drops of pyokuanin made by Park, Davis & Company with any kind of a medicine dropper. It is the finest thing we have found to cure up sore eyes."

DRIED BEET PULP WITH ALFALFA.

To the Editor: How is the best way to feed beet pulp to dairy cows; should it be fed dry or soaked first; how much for each cow with alfalfa hay?—W. F. Stroble, Ripon.

[Answered by Edw. C. Voorhies.]

Beet pulp can be fed either wet or dry to dairy cattle. Where succulent feed is provided it probably will be more convenient to feed the beet pulp dry. However, where no succulence is present, as is the case when feeding alfalfa hay, it is probably best to soak the pulp before feeding it, in order to provide some succulence.

We usually recommend that a dairy cow be given one pound of concentrates, such as beet pulp, or other concentrates, for every five or six pounds of milk that the animal gives. This is rather a rough guide, but it answers the purpose very nicely.

The Cascade International Live Stock Show will be held some time in November at North Yakima, Washington.

Great losses from hog cholera are reported from the Yuma district of Arizona.

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Bulls of Highest Quality.
YOUNG SOWS AND BOARS
of finest
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HOPLAND, CAL.

Veterinary Queries and Replies.

[Answered by Dr. H. B. Wintringham, Petaluma, Cal.]

MULE WEAK IN HIND LEGS.

To the Editor: What can be done for a mule which gets down and cannot get up for 24 to 48 hours? He seems weak in the hind legs; after attempting to rise fall back with a groan as if exhausted. He had a sore on his rump which seems hard to heal. As yet I am able to get blood pus from it by just pressing around the skin gently. Have given him flaxseed and salts and his bowels seem to move fairly well.—B. L. B., Modesto.

[Give this mule the following: potassium iodide 2 oz., water one quart; dose, 2 oz. twice a day.]

COW WON'T BREED.

To the Editor: Our cow has been to the bull four times and is not with calf now. Kindly let me know what is the best thing to do as she is a first-class Holstein cow; not pure-bred but a good grade. She was fresh last February.—R. D. P., Turlock.

[Douch this cow with a gallon of water daily containing 1 drachm potassium permanganate for two weeks previously to the heat period. After service introduce the arm, which has been previously washed, and try to introduce some of the semen into the mouth of the womb.]

PIG COUGHS.

To the Editor: I have a registered hog about five months old. He has had a cough for the last two months; coughs up phlegm four or five times a day, otherwise seems perfectly healthy; is fat and thriving well. Will this cough leave him, or can you advise me what to do for it?—W. E. W., Hollister.

[Give this pig a teaspoonful spirits of camphor once a day for one week.]

BLOODY MILK.

To the Editor: We have a cow that was fresh Mar. 22; the udder was hard and we treated it with camphor and vaseline which quickly relieved the trouble. She was bred May 21; about June 15 we noticed blood in the bottom of the pans after standing. We discovered it was coming from the left hind teat. We gave her saltpeter; she seemed better for a time, then she commenced giving bloody milk from two teats. We gave her potassium iodide as prescribed in the Press of May 1; for a week we saw no blood; now she is giving blood from three teats, and it comes in hard lumps from the left hind teat. When nearly dry it is almost clear blood. We keep the milk from each teat separate. She seems perfectly well; eats heartily; is fed good alfalfa hay three times a day, one-half bucket of bran twice a day; she gives four and one-half gallons milk per day now; she gave a gallon per day when fresh.—A. B. R., Oakley.

[This is due to infection which is so deep seated that drugs seem to be of no avail. Have an autogenous vaccine made from a sample of her milk by the Western Laboratories, Oakland. This should be administered by a competent veterinarian.]

PROPERLY FED HOGS PAY.

[Written for Pacific Rural Press.]

One of the largest dairymen in Yolo county is feeding his pigs with surplus skim milk after the calves have had all they want. He admits that the pigs would do better if they received some barley in addition to the skim milk, but has simply not gotten around to it. When the butcher kills these hogs the per cent of dressed meat will be much smaller than if they were fed some grain all the time. The butcher knows that, and consequently pays a price commensurate with their worth at the block. The annual loss from improper feeding of hogs will be overcome when the grower realizes more fully the difference in revenue for all concerned of the properly and improperly fed hog.

RELATION OF BUTTER MARKETS TO DAIRYING.

(Continued from page 121.)

to blame for the deplorable fact that our butter, as a whole, is so poor in quality and uniformity (when compared with other territories) as to render it unfit for competitive selling at a fair price, although both disown the responsibility.

This shifting of responsibility onto the other fellow's shoulders is not conducive to market development as we already know, and before our marketing troubles can be solved an active campaign of education must be conducted, which will make every offender responsible for his deeds.

Several avenues are open for such education, all of them necesary and practicable for their particular purposes; but all revolving around the dairyman, who holds in his hand the future of the marketing problem.

This educational work might be put into three classifications for illustration purposes: first, just payment for quality by the manufacturer; second, extension work by the University of California to show dairymen the dire need of quality and how to get it; and third, police duty by the State to insure compliance with existing laws.

Experience here, as elsewhere, shows that payment for quality by the manufacturer will create the most direct and lasting results. It not only brings into the folds of better quality that dairyman who is anxious and takes pride in producing and selling good cream, but also a large majority of those dairymen who follow the dollar wherever it goes.

Again, experience shows that our State Universities have the means at their disposal of exerting great influence in the betterment of dairy practices and products, and surely we have both a just cause and a most efficient University in this State to carry on the work.

If both of the above agencies would direct a campaign of education along lines as outlined, the police duty would be of minor importance, reverting more into an advisory department, except in rare instances where neither pride or money commanded respect. We all know that it is far better for a citizen to carry on his business with the least possible amount of police supervision, no matter how conservatively that policing may be done.

The Money Gain. — In reviewing the past year's butter market, it is commonly granted that a 20-cent market would have prevailed rather than a 23 or 24 cent market but for Australia's drought. It is further asserted by our best posted butter distributors that a 20-cent market will prevail next year and succeeding years unless direct action is taken to better conditions. Considering this on the basis of 60 million pounds of butter annually, which was the production in 1914, this three cents differential means an annual loss of $1,800,000 on butter alone. Market milk, cheese, and condensed milk, being based on butter quotations, will suffer likewise. The question remains: Are we to see the dairy industry stagnate for lack of quality or are we going to awaken to the dangers ahead? No longer can we say, "That will come in time." It is here, and a reality.

Cheese Possibilities Good. — We have referred in the above to cheese, mentioning that it also offers possibilities to the dairy industry. Generally speaking, these possibilities are lying dormant or are being developed in a poor and negligent way at best.

The present production of cheese in California is in round numbers five million pounds less than we consume, and sells at three to five cents less than cheese manufactured in the Middle West. At the present time, there are one quarter of a million pounds of California cheese held in storage from last year's make, which is of such poor quality that it cannot find a market. In other words, our cheese is on the whole of such a poor quality that our own markets cannot successfully cope with it. The State law requires that every cheese manufactured in the State carry the name of California cheese. That name is today a liability in every market rather than an asset.

That such a marketing condition is not fair to the cheese possibilities of the State is evidenced by two instances in mind. In awarding prizes for cheese at the Panama-Pacific Exposition, one brand of California cheese received as high a scoring as the New York cheese entered. The California product was from a Coast dairy section and was manufactured by a cheese maker who has made a study of the business.

This is significant in connection with the results of a close inspection last spring of our cheese possibilities on the Coast by C. F. Doane, who is connected with the Dairy Division of the U. S. Dept. Agr. After visiting all of the Coast dairy sections in California, from Santa Barbara to the Oregon line, Mr. Doane reported to a San Francisco friend that nowhere, so far as he knew, were feed and climatical conditions so favorable for the production of fine quality cheese as in those sections mentioned. He added that the chief requisite is to place our cheese-making upon a more scientific basis, inasmuch as the manufacture of good cheese cannot be successfully accomplished with the antiquated methods now largely in use.

Improved Methods Needed. — Fewer farm factories and more custom factories, with competent cheese makers who have followed the latest developments in scientific methods, are needed. Also, the law which now handicaps the good cheese manufacturer should be changed to give him a chance for fair competition in our own as well as distant markets.

The above statement of facts regarding the dairy industry is put forth at this time as the objectionable feature of our present system, with the full realization that no other kind of farm endeavor will bring greater prosperity to the individual or the State than the dairy industry and that this industry offers vast opportunities for development; also, with a firm conviction that the future lies largely in our laying of a firm foundation in the butter markets we will in the future be largely dependent upon.

Expensive equipment is not necessary in the production of high producing cows, according to A. W. Morris of Woodland, whose three world's champion milk producers and relatively inexpensive equipment prove the case.

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At Prices within Reach of Every Breeder and Dairyman.



A Grandson of Tilly Alcartra.

We have several splendid grandsons of this now famous cow which we can deliver to you at prices which will suit the pocketbooks of every dairyman wishing to improve the quality of his herd, whether it be a grade or pure-bred herd. These bulls are sired by our herd bull, Prince Alcartra Korndyke and out of A. R. O. cows, and the only living grandsons of a cow having a record of over 30,000 pounds of milk in a year. Such an opportunity for increasing production has never been offered DAIRYMEN AND BREEDERS in California, price and quality considered. Buy one of these bulls and solve your low production problem. Write

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Whether intended for show or market, the hog attains perfect condition and more quickly and economically if his ration includes some DIGESTER TANKAGE. The growing pig needs DIGESTER TANKAGE as a bone and muscle builder. Write for free pamphlet on hog-feeding.

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7 Choice Registered Tuberculin-tested Short Horn Bulls, aged 14 to 20 months. If interested, write or call immediately.

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Alfalfa Freight Rates East.

Southerners Want Our Alfalfa Hay, but the Freight Makes the Price Too High for them to buy. This is good for California if it Forces us to Feed it to Livestock.

To the Editor: In your article on shipping alfalfa through the Panama Canal, we note the statement, "Another steamship company points out the immense field to be supplied in the Gulf States with California alfalfa hay, for the dairy cows are increasing in that section." Now, can you tell me how I can go about it to find a buyer in the Gulf States for our alfalfa hay. With our own, and that of our neighbors, we will doubtless have 300 tons to dispose of. What is being paid in the Southeast?—E. S., Los Molinos.

[We have taken this up with dealers in various points of the southern states, and have the following answers to our questions:

W. S. Duncan Company of Atlanta, Ga., writes: "I have just returned from a long trip through southern California and up to San Francisco through the Valley, and I am sure that you have some very fine alfalfa hay growing. We are paying here now about $18.50 per ton for choice alfalfa and $16.50 for No. 1. We get this from Mississippi at present. The freight would be so heavy it would not be practicable for you to ship hay so far when we could otherwise use California alfalfa a little later in the season."

The Benedict Commission Company of New Orleans, La., writes: "If you can name us a satisfactory price for shipment via Canal we would be in a position to use large quantities of alfalfa hay; also alfafa meal. We are not familiar with the staple or quality of California alfalfa and would suggest that you send a large sample of same by express. The prevailing price on this market at present is $15.50 per ton for choice pea green alfalfa. Kindly let us know the average weight per bale and also the weight on the double compressed alfalfa, as it may be that we can work some of this double compressed to good advantage for export; and we would be pleased to have you put us in touch with any of your shippers who will be in a position to make shipment either via rail or water to New Orleans, but the terms would have to be margin drafts, allow inspection, payable on arrival."

The Jacksonville, Fla., Chamber of Commerce sends us the following from F. Saussy & Co., large merchandise brokers of that city: "As far as Jacksonville is concerned, there will be no chance to sell any of that hay, as it will be brought from the Pacific Coast by boats. Most of the alfalfa hay such as is referred to in your letter reaches this market from Arizona and Colorado. While the Oklahoma and Kansas hay in our opinion is not superior in quality as this hay grown in the irrigated sections, it nevertheless supplies the small demand of this market for alfalfa. This market has never seen any double compressed bales, but if the average weight per bale is in conformity to that shipped from the points referred to in this letter it would not make an excess bale, as the average weight of western alfalfa that reaches this market is around 50 to 60 pounds to the bale. As you know, Jacksonville is hardly in position at present to handle straight cargoes of alfalfa hay, and until we can get steamers bringing miscellaneous cargoes to Jacksonville from the Pacific Coast, the question of disposing of Sacramento Valley alfafa in this territory is one of remote handling. Our merchants as a rule prefer hay over rail transportation rather than water transportation; we have had several experiences on water transportation hay, and they have been far from satisfactory. We do not believe that there has been the progressive development in the use of alfalfa hay on this market that looked possible when it was first being offered for sale; one trouble with alfalfa is that it is very wasteful in handling and it is very poorly baled by the shippers, and very considerable profits have to be made for the buyers to handle it in any volume. We have never understood why the shippers do not pay more strict attention to the proper baling of their hay."

The Chairsell Grain and Feed Company of Birmingham, Ala., write: "A great deal of alfalfa is used here, but it is mostly from Mississippi and Alabama, as it is much cheaper than western. It is sold delivered here at $15.50 to $17 per ton. It would not pay to ship California alfalfa here now, but this fall and winter we may be able to handle some. If we can, we will be glad to do so. Last year Kansas, Colorado, New Mexico, and other states shipped alfalfa to this point, but this year Mississippi and Alabama have been furnishing nearly all. The quality is improving each year. This fall I expect the majority of alfalfa from the South will be already sold; thus we will have to go West for it. We have been offered Kansas alfalfa for $18.50, but can't sell it, as the southern alfalfa can be bought for less money. The price will be the only thing that will keep the California alfalfa out of this market. Everybody admits that the western alfalfa is rich, but the price cuts quite a figure this year. We hope this fall and winter we can do some business with your people. Would this hay be shipped from Sacramento, or what point? We would like to get the freight rate and the prices of alfalfa to see what could be done. We would like to handle some if we could."

In regard to the rates on alfalfa to these points, the Southern Pacific Company advises us as follows: "Rate on hay, carloads, in bales tightly compressed from central and northern California points to Birmingham and Mobile, Ala.; Omaha, Neb.; and New Orleans, La., is $1 per 100 lbs., minimum weight 24,000 lbs. The rate to Omaha, Neb., and New Orleans, La., carloads, on hay in bales compressed to a density of 24 lbs. per cu. ft. is 60 cents per 100 lbs., minimum 50,000 lbs."

The 60-cent rate is quoted on hay compressed to the same volume per ton as the steamer companies quote their rates on by way of the Panama Canal, as mentioned in the other article. This is too much to be acceptable to the eastern buyers, as noted in one of the communications. The $1 rate on ordinary bales means $20 freight per ton, which would put a crimp in the ambitions of alfalfa growers, were it not for the tremendous advantage to be gained by feeding their alfalfa to cattle and hogs on the farms where it is grown. The practical embargo on alfalfa shipments out of the State, due to the high freight rate, is a blessing in disguise if it leads our alfalfa growers to feed their hay to their own stock.

Sheep scab in Sonoma and Mendocino counties has engaged attention of the State Veterinarian recently.



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Short Horn Cattle

Shropshire and Merino Sheep

ATTENTION, SHEEPMEN.

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Shropshires sired by rams imported by me from England in 1911.

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LARGE AND MEDIUM TYPE

A Wonder and Giantess Stock.

Prize-Winners of either type. Several very fine young boars and a few bred sows for sale.

We guarantee to please or refund your money.

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AVERAGE 947 lbs. FAT
Large and Economical production is the key to larger profits. The Guernsey Cow is a sure way to increased profit.
Shall we send literature?
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Durocs out of R. D.'s Beauty, U. F. Advance, and other prize-winning strains. Good individuals at right prices. Shipped to you before you buy.
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LOSSES SURELY PREVENTED by Cutter's Blackleg Pills. Low-priced, fresh, reliable; preferred by Western stockmen because they protect where other vaccines fail. Write for booklet and testimonials.
10-dose pkgs. Blackleg Pills $1.00
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Use any injector, but Cutter's best.
The superiority of Cutter products is due to over 15 years of specializing in vaccines and serums only. Insist on Cutter's. If unobtainable, order direct.
THE CUTTER LABORATORY, Berkeley, California

CAN we afford to pay double price for hall-hatched chicks; is a chick hatched in September, October, November, or December worth two chicks hatched in the spring? I. H. Severence, who has had thirty years' experience in hatching and rearing chicks right here in California, believes they are worth double the value of spring chicks and makes an unqualified statement to that effect.

Hatch Chicks This Fall.

[Written for Pacific Rural Press by Geo. H. Croley, President Federated Poultry Ass'n of California.]

Several settlers, recent arrivals from eastern states, have expressed deep interest in the articles relating to fall hatching of chicks, but all have grave doubts whether their particular localities could be included in the list of districts that were favorable for this—to them—strange undertaking. We can readily understand why they should feel uncertain as to results; it required several years for us to become convinced that nearly everywhere in California fall hatching could be successfully conducted.

In the following statement, I. H. Severence in a few short sentences gives the result of his thirty years' experience. Mr. Severence says: "Not back East or elsewhere, but right here on the Pacific Coast, thirty years' experience has taught me that the best results—and is it not that which we are all striving for?—are to be attained by fall hatching. Yes, I know the cry about 'the price of eggs being out of sight,' but has not no less a man than E. R. Philo been trying to drill into the mind of the general public that as like produces like, so fall-hatched chicks will in turn be fall layers? And that greatest of naturalists, Darwin, said the same thing long before Philo was ever heard of. Then they tell me, 'My hens don't lay in the fall.' Sell them, and get some that do. The hens I am now caring for have been molting heavy all through June and July, and if they are not laying well in September and October it is because the bottom has fallen out of the wheat bin; and the owner's pocketbook, too. In other words, feed 'full and plenty,' for new feathers are not made out of air. As I am intimately acquainted with California from Yreka to Bakersfield and Susanville to Santa Barbara—which is a long stretch of country—yet in all I know of no place where I could not hatch and raise fall chicks. Having had experience in so many counties and in lots running into the thousands; also hatching every month in the year, both by incubator and by the hen, I have found that the best results were from September, October, and November eggs because more eggs hatched and more chicks lived and grew larger and stronger than any March or April chick I ever hatched. However, I have had January eggs hatch in February that the pullets, Plymouth Rocks, laid in four months to a day; and cockerels, Orpingtons, weighed five pounds in the same length of time, yet the mortality among them was greater than those hatched before January. A fall hatched chick is worth two hatched in the spring."



Now is the Time to Feed
Coulson's Egg Food
to your pullets as well as your hens, commencing at the age of three months.
Write for free book "Chickens" from shell to market.
COULSON CO.
Petaluma, Cal.

FOWLS POISONED BY NIGHT-SHADE.

To the Editor: Quite a number of my chickens, half grown as well as matured fowls, are acting in a strange manner. They seem unable to pick up their food, stand about with a peculiar look in their eyes, and at times attempt to run backward. I had them in small runs provided with litter for scratching and in addition to the grain and mash, fed them until lately with garden greens. When the green stuff ran low, I turned them out to hunt what greens they could find in a small creek bed that is near the poultry yards. Can you tell me what is the cause and a remedy for this trouble? —Mrs. J. S., Niles.

[Your fowls have been eating the leaves of deadly night-shade—Atropia Belladonna—a small plant with reddish, bell-shaped flowers, and shining black berries; it grows in just such places as you describe. The drug, belladonna, is made from the leaves and roots—the whole plant is poisonous. It may assist to identify the plant to state that the flowers somewhat resemble the bloom of potato plants. It is closely related to the potato, tomato, egg-plant, tobacco, and about 1000 other wild and cultivated plants.

The trouble may be avoided by either searching out and destroying the plants or by serving the fowls a proper supply of wholesome green stuff. The fowls eat the poisonous plant only when other greens are scarce. In the vicinity of San Francisco, Oakland, and the adjacent foothills, the poultry keepers at this season have frequent unpleasant experiences with this plant. When taken in hand promptly, the affected fowls may usually be saved.

Ernest E. Silva, proprietor of the Corner Drug Store, Fruitvale, states that in his experience the following remedy seems the simplest to use and which has generally produced the most satisfactory results. Mr. Silva says: "Make an infusion or tea of galls in which, while lukewarm, dip the fowl's head several times, using care not to strangle it. This gives prompt relief except to the throat. After drying the fowl's head, swab the throat with one drop of tincture of iodine. A swab may be quickly made by twisting a very small portion of cotton on the end of a toothpick. The galls of any animals may be used. We keep a constant supply of galls on hand because of an unusual demand here, but many druggists would not have them. They may be obtained fresh from a butcher. Simply pour boiling water on them and let them steep in it until the temperature is reduced low enough to feel comfortable to the hand. Unless the fowl is very seriously affected, one application is sufficient."]

RABBITS NEGLECT YOUNG.

To the Editor: Three of my does have twice refused to make nests for their young, and have either neglected or eaten them all. Can you tell me the reason? I feed rolled barley, alfalfa hay, and a little green stuff. —W. C. M., Rivera.

[Answered by Mrs. B. H. Gilkey, Santa Rosa.]

[Not knowing full particulars as to the treatment you give your rabbits, I cannot absolutely state the cause of your trouble. But this I do know; if a doe is given bedding before the middle of her time, say on the tenth day, she will in all probability prepare her bed about the fifteenth day. Should she do this, never disturb her. Keep her pen clean, leaving the nest intact. When the young are born remove all inferior sized or dead ones. I would advise straw or oat hay or any clean dry stuff free from mildew in place of alfalfa hay. Give water and green stuff, avoiding cabbage and celery or decayed vegetables. Pears and apples are relished, but if given in quantities they are apt to gorge themselves and die suddenly; rolled barley or wheat is all right. Dry alfalfa tends to paunchiness; green alfalfa is fine.]

"I'm so happy," she said. "Ever since my engagement to Charlie, the whole world seems different. I do not seem to be in dull prosaic Eastbourne, but in—" "Lapland," suggested the small brother.—Tid-Bits.

Poultry Breeder's Directory

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

WE ARE BOOKING ORDERS for Fall and Spring hatching now. White and Brown Leghorns; Barred and White Rocks; Black Minorcas, Rhode Island Reds; Buff Orpingtons and Anconas. No deposit required with order until 30 days previous to delivery of chicks. Large orders a specialty. Santa Clara Valley Hatchery, R. 6, San Jose, Cal.

WHITE PLUMAGE POULTRY FARM and Hatchery. Sells Fall and Winter chicks. White Leghorns, Barred Rocks and Rhode Islands Reds. Circular free. H. A. Schlotthauer, Exeter, Cal.

BARRED PLYMOUTH ROCKS—"The kind that Win and Lay." Choice stock for sale. Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

CROLEY'S EVERLAY EGG MASH AND CROLEY'S SCRATCH FEED form a perfect balanced ration. Ask your dealer for them.

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ORPINGTONS, BUFF AND WHITE, Black Minorcas and Carneux pigeons. Mrs. Susan Swaysgood, Pomona, Cal.

HARES AND RABBITS.

BOSWORTH'S Imperial Red New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville, Cal.

BELGIAN HARES—Young stock for sale. Hurd Bros., St. Helena, Cal.

TURKEYS, DUCKS AND GEESE.

HART'S BRONZE TURKEYS—Limited number of last season's breeders for sale at reduced prices. Albert M. Hart, Clements, Cal. (Successor to Ed Hart.)

CHICKENS, DUCKS, GEESE, GUINEAS, PEA FOWL. Address Wm. A. French, 545 W. Park St., Stockton, Cal.

PIGEONS.

WHILE THEY LAST for $3 per dozen. Plymouth Rock Homer Pigeons. Very fine. Geo. M. Bosworth, Geyserville, Cal.

California Poultry Practice

WRITTEN TO TEACH BETTER POULTRY METHODS ON THE FARM.
By Mrs. Susan Swaysgood.

Every poultry raiser of California should have this book. It is very practical and will help make your business profitable. In the preface of the book the author says:

"This book is not an accident; it is born of a desire to help others to avoid the stumbling-blocks in the poultry business, and at the request of many readers of The Pacific Rural Press, and other papers.

"With forty-two years of experience with poultry it is expected that I have learned a few things about it; it's a poor business that does not teach lessons in that length of time. Don't you think so?

"There are books, yes, books without number, on poultry matters, but many of them are mostly theory. This book tells you just what I have done and how I would do it.

"'It is a book of action, and it is action that counts these days. We have to act in the living present if we want to live. I want to live and I want others to live, too, and as I have learned these things by experience it is fitting that I should tell others how to obtain results without paying such a big price for the experience.

"The things told you in this book are original, unorthodox, but strictly practical; and if you will read and then heed, you will be well satisfied that the author has given you your money's worth. California is an empire in itself, and I am sure there are enough men and women engaged in the poultry business, or wanting to get into it, to call for a million copies of this book, though its only claim is that it is needed."

The book contains 157 pages, besides illustrations. The 43 chapters cover every phase of poultry culture from eggs to hens, and from hens to market. Feeding, housing and parasites.

Price, cloth-bound, postpaid, $1.00.

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Farm Poultry for Profit.

[Written for Pacific Rural Press by Susan Sweysgood, Pomona.]

MOLTING TIME.

August is the month when our poultry is commencing in earnest to shed the old coat of feathers preparatory to putting on the new. Molting is a natural condition, and if the hens are healthy and are fed right they will go through with it in a natural manner. The time can be made long or short according to the care that is given. I have had hens laying again in sixty days from the time the first feathers were shed, and anyone can do the same providing the hens are healthy to begin with.

Dip Hens.—As a preliminary help to the molt, I dip the hens; it frees them of all vermin and seems to give the skin a cleansing that helps. It softens and greases, at the same time cleans the skin of scurf and dirt that has been accumulating. Most of the preparations put up by poultry supply dealers will do the work, but I like one best that will emulsify the water. Such a preparation is healing and helps the molt considerably.

Two People Do the Work.—When using it two people can do better than one, because the dipper can't very well keep wiping his hands to go after a chicken. Two weeks ago I dipped over 300 hens in two half days with the aid of a helper. The hens were driven into a house, generally the house they roost in, as we took one yard at a time. I had the dip in the wash boiler; directions called for one part of the dip to 25 parts water, but when I put the first hen in I knew it was too strong, so I added two gallons warm water. As the helper passed a hen to me, I took it by the legs and head; the head being held in the right hand, the legs in the left hand, and in this way I soused the hen in the wash boiler, keeping the head out of the liquid all the time as it is too keen for the eyes. By the side of the wash boiler I had a large zinc pail and the hen was put in this pail for just a minute to let some of the dip drain from the feathers; then she was thrown on a bed of alfalfa hay where she could lie, sit, or stand as the fancy took her. As a rule she gave her feathers a shake or two and walked off about her business.

Hens Get New Skin.—The hens get a new, clean skin along with the new feathers and they feel good and do good after it. Of course, there is a little danger attending it; for instance, I lost one fine young cockerel. Either the water was a little too warm or his heart was weak; anyway, he gave up the ghost. If his heart was weak he was just as well dead anyway these strenuous times, so it is a case of survival of the fittest. One old fellow five years old stood it and came out crowing.

Clean Houses.—Next to having the hens dipped be sure your houses are free of mites and ticks. "The Petaluma Poultry Journal" has been investigating the habits of ticks, and Professor Ward, formerly of California University, says specimens have been known to live over two years in an empty building and then attack hens when put in. I know from my own experience that mites will live over that length of time and then do lots of mischief before they are found out. So before dipping the hens, it is well to spray or fumigate all the houses; then the hens have a fair show to molt, and as a rule they lose no time when the proper feed is supplied.

Feed Mineral Matter.—The feed for molting does not differ a great deal from the usual egg feed; but as feathers are composed chiefly of mineral matter this should be kept in mind when feeding. Plenty of green feed, alfalfa, kale, cabbage, rape, or most anything that is tender and digestible will be found beneficial. This will supply the mineral from the vegetable world; but animal mineral figures very largely in the making of feathers and this must be supplied by meat, bone, and any other form of animal food we can get, always looking to the digestible amount that can be gotten. A good brand of fish meal is as good as anything because it is easier to digest than some other forms of animal food; for a change, a little beef tallow dissolved in hot water and mixed with the mash is helpful. The careful feeder who observes his hens will soon detect what is missing from the ration; and while molting a hen needs all the nourishing food she can get. I know many poultrymen who are penny wise and pound foolish, and who think the molting season is a time to economize; therefore, they feed just as little as possible, which merely serves to keep the hens alive and nothing more. Common sense ought to tell them that they are robbing themselves and that the hens don't care a cent about it either way. It is not a case of sentiment with me, but business; I can't afford to feed and shelter hens that don't pay their own board. But if they are not fed, how can they be expected to pay their board?

Flaxseed meal is another good aid to molting, but with all these rich feeds it is necessary to use good judgment; it must not be over-done, as any or all of them may bring on a too loose condition of the bowels; therefore, the droppings must be watched and at the first indication of looseness reduce the quantity of meat, grease, or whatever is causing the trouble.

Years ago we used to get pretty good crackings from the butchers, but now they get every bit of grease and good out of them with pressure, and what is left has very little, if any, value. It may be as good as beef scrap, but it is not near so handy to use, so it is just as well to let them keep them, and put the money into fish meal, bone, and beef scrap.

Get Rid of Useless Stock.—Don't forget that this is a good time to cull out all stock that are not worth carrying over; no use to feed them if they are to be sold before winter. The old hens should be fattened up and as many of them used for the table as possible. Most farmers have more or less of a family and there is not anything in the world better for a family dinner than a good chicken pot pie.

If you never tried adding a cup of cream to the gravy after the pie is taken from the oven, do so, and you will be surprised at the improvement. It takes away all greasy taste and makes a person feel like asking for more.

Keep the pullets growing; better get rid of old hens and feed the pullets if you can't feed both, for when the eggs are wanted in winter you will naturally have none if you play the game of robbing Peter to pay Paul. I believe in feeding anything that is under my care; if it won't pay to feed, it is a cinch it won't pay to starve any growing thing. Old animals or poultry can stand starving better than young ones can, for with the young, Nature has to grow the frame as well as keep the organism in condition. So if we must sacrifice one, let it be the old ones and do it in a way that is profitable.

Give Plenty of Water.—There is just one other item that should be mentioned in the matter of helping the molt, and that is water. Water serves a great need in the fowl's organism; and in this case when the system is being drawn on for a coat of new feathers there is more or less feverishness and that condition calls for water. The fresher and cooler it is, the better will it serve to keep the hens in a good healthy condition. Yes, there is still another, and maybe many more little helps that we might give the hens, but just this one is all I am going to mention this time. That is, for yarded hens, keep the dropped feathers raked up and either burn or bury in the ground and make fertilizer of them. If left lying around day after day in the hot sun, they commence to smell bad, besides being an ever-present temptation to hens that are inactive to form a habit of feather eating.

GOOD GUESSING GAME.

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8. Pittsburg—"Smoky City."
9. Washington — "City of Magnificent Distances."
10. Milwaukee—"Cream City."
11. New York—"Gotham."
12. Minneapolis—"Falls City."
13. St. Louis—"Mound City."
14. San Francisco — "Golden Gate."
15. New Orleans — "Crescent City."

Distribute slips, among the guests of a party, bearing the names of the cities and ask them to write out the nickname for each city.

A small girl of three years suddenly burst out crying at the dinner-table. "Why, Ethel," said her mother, "what is the thouble?" "Oh," whined Ethel, "my teeth stepped on my tongue."

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The Home Circle.

NEARLY TEN.

When a body comes to be nearly ten,
Ah! all sorts of troubles beset her then.
At least, if the body happens to be
The eldest of all in the family,
Whose mother's at work the whole of the day;
And I'm that body, I may as well say!

There isn't a body in all our street
Who's nearly as pretty, or half as sweet
As our little Sally; but oh, dear me!
It's strange how heavy that baby can be.
And Tommy's a wonderful boy, I know;
But sometimes that child does bother me so.

It's "Hush-a-bye baby," and off she goes;
But, if I put her down, that baby knows.
And, as soon as she's really fast asleep,
Then down on the floor our Tommy will creep.
And it's—"Don't wake baby, be quiet, do";
Or—"Tommy, you'll pull that cat's tail in two."

But, perhaps, when a body's worn out quite,
Her dear little mother will come in sight.
Then it's—"Polly, my pet, what should I do
If I hadn't a good little girl like you?"
And, somehow, a body feels glad just then
She's a grown-up girl of nearly ten!
—Cassel's Little Folks.

DOLLIE'S COMPOSITION.

[By Kate Hudson.]

The minute her young niece had laid aside her hat Aunt Kittie's quick eyes detected the worry-wrinkles criss-crossing Dollie's forehead.

"What is it, honey?" she asked. "Fractions or dates?" Then the storm burst.

"O, auntie!" wailed Dollie; "ever and ever so much worse than the two of them put together! It's a composition of Lincoln—on 'Lincoln and his Times,' if you please—and I just perfectly despise compositions, 'specially about folks. And there's nothing about when Lincoln used to be President in any of my books——not in my history nor in any of my readers—and even if there were we're not supposed to copy, anyway. How in the world am I going to write it, and what in the world am I going to do?" Dollie winked away a big, round, very salty tear.

"Oh, well," said auntie, cheerily, "maybe we can get some information without reading up; but now, dearie, we'll make ourselves a bit neat for a very early supper so that Uncle Zach and Aunt Loretta, who've been spending the afternoon with grandma, can get home betimes."

Company and supper put Dollie's woes quite out of her head until, when the peach marmalade and cake were making their second round, Aunt Kittie suddenly wanted to know!—

"When did you say you have to hand in that paper on Abraham Lincoln, Dollie?"

"Oh, dear!" groaned Dollie; but before she could reply, Uncle Zach, dear grandmother's oldest brother, spoke up eagerly:—

"Abe Lincoln! Why, I helped elect him, and a big time we had a-doing it, too. Wigwams for meetings on street corners, and pow-wows, and parades, and newspapers a-going on for him and against him! And before his re-election—he's one of our second-term Presidents, as you may know, Dollie—when he was a-passing through our town by rail, I heard him speak, too, and I'm proud and glad of it to this day. We young fellows—for I was a young fellow in those days—stood among the crowd in the freight-yard when his train came a-slowing in, and he came out on the platform. Well, land alive! You might a-heard us a-shouting a mile or more away and a-clamoring for a speech. One of us rolled a keg o' molasses out from among the big pile o' freight and stood it up on end, and some of us swarmed up the steps o' the train and helped the President down, and then sort o' boosted him up on the keg, and then he begun to talk. What he said went straight to the spot, I can tell you, and he could say an awful lot of just the right sort o' thing in about five minutes, too," Uncle Zach chuckled reminiscently.

"Why, I remember that day," chimed in Aunt Loretta. "I was only about nine or ten, but I remember Lincoln that day so's I could paint him for you. Very thin and very tall, and all rolled up in one of those queer long shawls with fringe on both ends—father used to wear one just like it—and with a high, black, narrow-brimmed hat."

"A shawl!" objected Dollie.

"Yes," explained grandmother; "we surely did wear queer clothes in those days. Women used to have full wide skirts and straight and narrow waists, and hats that ran up into a high peak in front and ended in a 'cape' behind. Little girls went about in summer in low-necked, short-sleeved calico frocks, and in winter they wore long cloth pelisses buttoned down in front. You remember, Loretta, don't you?"

"Indeed I do," laughed her sister-in-law, "and three-button, heelless, black prunella gaiters, while little boys clattered about in thick, heavy leather boots with copper tips to them,—copper-toes we used to call 'em."

"There wa'n't so many newspapers in those days," mused Uncle Zach, "and what we had were smaller far and thinner than our newspapers."

"Yes; and we had to read 'em by the light o' the sitting-room lamp," continued Aunt Loretta, "while in the bedrooms we still used candles."

"And things to eat and to wear going up higher and higher!" exclaimed grandmother. "If I was to tell you what things used to cost before the Civil War, I really think you'd not believe me!"

"And the big, thick, heavy-as-lead copper pennies—and not so very many of them—we used to handle; and the five, ten, and twenty-five cent shin-plasters," said Uncle Zach; "and all the queer coins of their own, issued by big factories; why, even postage stamps were legal tender and could be paid across the counter like money."

"Shall I ever forget," sighed grandmother, "that sad spring morning when my father cried out aloud on seeing his newspaper, and then read to us in a low and shaking voice that Lincoln had been shot! Every house in town went into mourning, with closed shutters and



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ANTS DOOMED

A Discovery Which Means the End of This Annoying Insect.

If you told the average housewife that there was no need to suffer longer from ants, she would look upon you as an inexperienced dreamer who had never come in contact with the ant pest in a practical way.

However, the fact remains that the ant is doomed. Although hundreds of remedies have failed, one has at last been devised that spells the finish of the ant.

A baker and candy maker in Los Angeles was almost driven out of business by a terrible scourge of ants, which over-ran the entire place. Driven desperate by the annoyance, after much experimenting he devised a simple paste which rid his entire shop of the plague in one day.

So successful did it prove it was was decided to place it upon the market for general use, and a large factory is now required to produce it in the immense quantities necessary.

This little remedy is known as Kellogg's Ant Paste and can be obtained at all modern druggists or grocers. Try it once.

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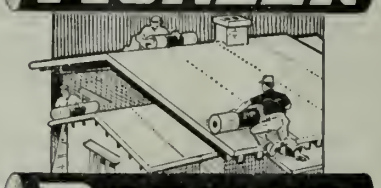
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"Yes, and Brother Sam and me," went on Uncle Zach, "stood in line four hours and a half—the better part o' the night—waiting for our turn to pay our respects to our Martyr-President—laid out in state in the City Hall — with thousands o' men and women before and after us to do the same. Slowly we went in one door, passed slowly by the flag-draped coffin, and then out by another door, every eye wet, and every heart heavy with grief for the man we'd lost. A great, good, wise President if ever there was one!"

"The kindest of husbands," murmured grandmother, "and the most loving of fathers."

"A big-hearted, honest, kindly man," assented Aunt Loretta; "truly 'with malice toward none, with charity to all.' "

"There, Dolly," declared Aunt Kittie, as Hettie came in to clear the table, "there is more than enough material for your composition. Come right upstairs and begin on it."

EDUCATE HOME PURCHASING AGENTS.

What does it cost to outfit a bride or a baby?

What is the way to find a good cook—and to keep her?

Could co-operative housekeeping reduce cost and raise efficiency—and really succeed?

How does buying by mail order really work?

The United States government has discovered that such problems are being investigated scientifically by groups of young women at the University of California. This work has aroused so much interest that in a bulletin on "Education for the Home," by Professor Benjamin R. Andrews, published by the United States Bureau of Education, several pages are devoted to an account of the course on "The Household as an Economic Agent" given by Professor Jessica B. Peixotto of the Department of Economics of the University of California. Here are some of the economic principles expounded in this Berkeley course, according to this government publication:

Not utility only is the basis of economic wants, but sense of beauty, display of power, conformity to tradition.

Household budgets ought to be planned in advance.

Renting or owning homes, living in separate or in group dwellings—these things react on habits of living. Taste, variety, cheer, tradition—these are important considerations as regard food—not nourishment alone.

At some level of income surplus at last appears; what sort of spending really is wise depends upon the amount available for surplus.

As consumer as well as citizen, one has responsibility toward the effort for better wages and better hours of labor.

Thrift on the one hand—love of conspicuous waste on the other—these affect the habits of spending. But in all buying, the factor of psychological return is important, for the principles of buying are largely subjective.

Of the women in the course, fifty per cent filled out household-account tabulation sheets with the complete details of expenditures of actual households. The rest made estimates based on studies of current prices. From comparison, they sought to deduct the facts and the psychology of spending.

All of which is regarded by the university as valuable professional training for the career of most of its women graduates—that of family purchasing agent.

HOW TO GROW TROPICAL FRUITS.

What is a tuna?

A fish, of course.

Yes, but also a fruit. What's more, the tuna is to be given the dignity of being one of the subjects of a new free correspondence course in "Semi-Tropical Fruits" planned by Professor J. E. Coit and just started by the University of California.

Children in California get their hands full of prickles gathering this fruit off the cactus, and usually find the reward scarcely worth the pain. But of late plant-breeders have been developing a number of improved species of the tuna-bearing cactus, with fruit excellent in quality, and moreover free from spines. The Burbank variety is but one of many, others having arisen in nature and having been improved by various experimenters.

Another novel fruit which may in time develop commercial possibilities in California and the art of growing which is to be taught in this course is the mango. A native of India, it is one of the most delicious of tropical fruits. It has now spread through many parts of the world and has been successfully grown in various individual gardens in California.

This correspondence course will deal also with the "Avocado" or alligator pear, which already promises important commercial possibilities for California, with the loquat, the pomegranate, the guava, the persimmon, the cherimoya or custard apple, the carob, and the feijoa, or strawberry guava, a plant native to Uruguay, of which frost-resistant varieties have now been successfully grown in California.

LOGANBERRY JUICE.

[By Prof. C. I. Lewis; Used by Permission of Pacific Horticultural Correspondence School.]

"The simplest way to make Loganberry juice that we have ever tried is the following: Place just enough water in the bottom of a kettle to cover the Loganberries. Heat nearly to the boiling point, but do not allow to boil. Stir them occasionally and crush them if possible. After they become soft strain the mixture through a cloth jelly bag. Allow the mixture to drip thoroughly, putting the juice back on the stove and adding one-third sugar by measure. Again heat the juice up to about 200 degrees and bottle. Drive in the corks tight and cover with paraffin. Such juice can probably be kept indefinitely, as I have kept it at least two years. This is a heavy juice and will need to be greatly diluted before drinking. From one-half inch to an inch of this juice in the bottom of a glass of water is a beverage of sufficient strength. In making punches the addition of the juice of four lemons to each gallon adds to the quality."

When making chicken with dumplings use the fat skimmed from the stewed chicken as shortening for the biscuit. They will be rich, light, and tasty, much better than those made with butter or lard.

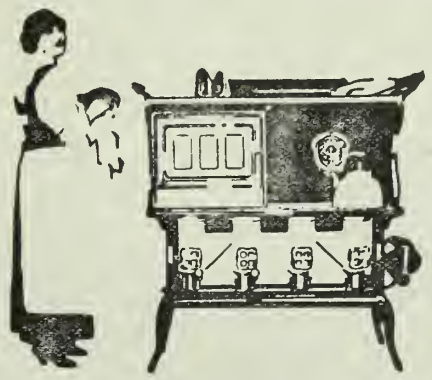
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Ask Your Druggist

If your dealer has not yet got Flykill in stock, send us his name and 30c in stamps and we will send you a full-size bottle, securely packed, by mail.



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STANDARD OIL COMPANY
(California)
San Francisco

The Markets.

Unless otherwise noted, prices are f. o. b. San Francisco.

San Francisco, Aug. 4, 1915.

WHEAT.

Wheat values show no changes locally. There was a temporary stiffening in other markets, due to reports of crop damage, but this is counterbalanced by lack of export buying. The movement here is light.

Cal. Club, ctl.	$1.80	@1.82½
Forty-fold	1.80	@1.85
Northern Bluestem.	1.95	@2.00
Northern Club	1.80	@1.82½
Northern Red	1.75	@1.90

BARLEY.

Demand has been a little more active, both for spot grain and futures, and prices have again been marked up. Some is being sold for shipment as high as $1.30 per ctl., while good bright feed brings $1.25.

Shipping	$1.25	@$1.30
Choice Feed, ctl	1.22½	@ 1.25

OATS.

So far oats have failed to find any strong demand. Offerings are ample, and will be larger before long, and values show little strength.

Red Feed	$1.35	@1.45
White	1.45	@1.50

CORN.

Egyptian corn is practically out of the market, but some kaffir is being sold as quoted. Other grades are moving in a small jobbing way, with values as before.

California Yellow	$1.80	@1.85
Eastern Yellow	1.85	@1.90
Milo Maize	1.75	@1.80
Manchurian	1.40	@1.60
Kaffir	1.80	@1.85

BEANS.

Numerous changes are noted in bean quotations this week, all in a downward direction, and the market appears to be in an easier condition than for some time past. The summer movement has hardly been up to expectations, and local handlers now look for a considerable stock of some descriptions to be carried over into the new season; while the outlook for the new crop so far is good. The trade throughout the country now seems to be pretty well supplied, and business is quiet.

(On Wharf)

Bayos, Cal., per ctl.	$3.50	@3.75
Blackeyes	4.50	@4.75
Cranberry Beans	3.50	@3.75
Horse Beans	2.00	@2.25
Small Whites	3.75	@4.00
Large Whites	3.50	@3.75
Pink	3.00	@3.15
Limas	4.00	@4.15
Red Kidney	4.90	@5.00
Mexican Reds	4.90	@5.00

SEEDS.

Alfalfa seed prices are nominal, as there is no demand at this season, and the old seed is pretty well cleaned up, while no new stock will be offered for some time. Other lines stand as before, with a quiet market.

(Wholesale prices, San Francisco.)

Alfalfa	Nominal	
Brown Mustard, per lb	Nominal	
Canary	10	@12½c
Hemp	3	@ 3½c
Millet	2½	@ 3 c
Timothy	7½	@ 8 c

HAY.

Arrivals continue large, but this has had no weakening effect on the market, as the surplus from previous arrivals has been moved in the export trade, and now the local demand is reviving in good shape. Consuming interests who have long been out of the market, or buying only for immediate needs, are now figuring on their winter requirements, and an active movement is expected for the next few weeks. The better grades, as usual, have the preference, off-grade lots finding little demand here. Old hay is about out of the market, and the buying of the last fort-night has absorbed much of the new crop from growers' hands. Those who still hold are accordingly disposed to ask an advance. Alfalfa arrivals are moderate and find a ready market.

(On track, San Francisco.)

No. 1 Wheat, per ton.	$11.50	@12.00
do No. 2	8.50	@10.00
Barley	8.00	@10.00
Tame Oats	8.00	@11.50
Wild Oats	6.00	@ 8.00
Alfalfa	7.00	@10.00
Stock Hay	5.00	@ 5.50
Straw, per bale	.40	@ .45

FEEDSTUFFS.

Oilcake meal is offered only in a small way, and commands a slight advance, while cocoanut meal is lower. The advance in barley has brought a corresponding rise in the rolled grain. Beet pulp is held at about $20 to $21 per ton, but with alfalfa hay and alfalfa meal at present prices the demand here is negligible.

(Wholesale prices per ton, carload lots, San Francisco.)

Beet Pulp, per ton	$20.00	@21.00
Alfalfa Meal, ton	14.00	@15.00
Alfalfa Molasses Meal per ton	18.00	@19.00
Bran, per ton	28.00	@29.50
Oilcake Meal	38.00	@39.00
Cocoanut Cake or Meal	23.00	@25.00
Cracked Corn	41.00	@42.00
Middlings	34.00	@36.00
Rolled Barley	26.00	@27.00
Rolled Oats	33.00	@34.00

VEGETABLES.

The market has been rather flooded with garden truck for the last week, and while arrivals the last day or so have been lighter, values are still low. Tomatoes are now coming in large quantities from the river district, causing the usual midsummer drop, and green peppers, eggplant, cucumbers, and summer squash all show a similar decline. Okra, too, is selling in lugs at low prices. The best green corn also is lower than before, with liberal supplies, though offerings clean up readily. Lima beans are lower, but string beans and peas are fairly steady.

(Wholesale prices, San Francisco.)

String Beans	1	@ 2½c
Lima Beans	2½	@ 3 c
Peas, sack,	1.25	@2.00
Peppers, bell, bx	.35	@50 c
Tomatoes, River, lugs.	25	@35 c
Cucumbers, lug	.35	@50 c
Eggplant, lug	.40	@60 c
Summer Squash, lug	.35	@65 c
Green Corn, sack	.75	@1.25
Okra, lug	.40	@50 c

POTATOES AND ONIONS.

Everything under this head is weak, with large offerings from the Delta section and only limited shipping requirements. Delta potatoes will hardly bring over 85c, while some fancy Valley stock brings as high as $1. Yellow onions are coming in freely, and both red and yellow varieties are cheap. Garlic remains fairly firm.

Delta	.65	@ .85
Onions, yellow, sack	.50	@ .60
Red, sk	.35	@ .50
Garlic, per lb, new	4½	@ 6c

POULTRY.

Business is rather slow, but prices have held steady, and some lines are slightly higher. Good young broilers are in lively demand, selling up to 25c.; and small hens are also doing better than for some time past.

(Wholesale Prices, San Francisco.)

Live Turkeys, lb	15	@17 c
Broilers, 15 lb under	24	@25 c
Fryers	22	@24 c
Hens, extra, per lb	16	@17 c
Small Hens, per lb	14	@15 c
Smooth Young Roosters, per lb	23	@25 c
Squabs, per doz	$2.00	@3.50
Geese, per pair	2.00	@2.50
Ducks, young, lb	13	@14 c
Old	12	@13 c
Belgian Hares	7	@ 8 c

BUTTER.

Butter continues in the same old rut as for two weeks past, without a change in prices, though dealers have been looking for a decline. There has been nothing special in the shipping line lately, and arrivals have been quite heavy.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	27	27	27	27	27	27
Prime Firsts	25½	25½	25½	25½	25½	25½
Extras	26	26	27½	30½	31½	31
Firsts	21½	21½	21	..	..	..
Sel. Pul.	23	23	23	24½	24	24

EGGS.

The first grade is no longer quoted. Extras have taken quite a jump in the last few days, being 5c above the last quotation. Arrivals are keeping up well, but the demand here is stronger than usual at this season.

CHEESE.

Flats and Y.A.'s show no further change, offerings being about equal to current needs. The best lots of Monterey cheese are a little firmer.

(S. F. Dairy Exchange prices on flats and Y.A.'s.)

Y. A.'s, fancy	12½c
Fancy Calif. flats, per lb	13 c
Monterey Cheese	10@13c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	26	26	26	26	28	29
Cal. Chees	12	12	12	12	12	12

DECIDUOUS FRUITS.

With heavy offerings, fruit prices in general have shown a downward tendency, though less stock is coming in the last day or two. Huckleberries are now coming in, selling at 12½c per lb. Strawberries and blackberries are very cheap, and raspberries are easier than last week. Plums are doing a little better, finding a strong demand, while arrivals are lighter. The top price of figs is lower, and peaches in small boxes are quite cheap. Apricots are hardly so plentiful, and good bulk stock brings better figures. Bartlett pears are easier. A slight decline is noted in apples, as offerings are generally increasing. Watermelons are weakening, and cantaloupes show a narrower range. Grapes are dropping. A good many Fountainbleaus are appearing.

Huckleberries, lb	12½c	
Strawberries, chest	1.50	4.50
Raspberries, chest	5.00	@10.00
Blackberries, chest	1.00	@ 2.00
Plums, crate	.40	@ .90
Figs, bx., double layer	1.25	@ 1.50
Apricots, crate	.50	@75 c
Lug	1.00	@ 1.25
Pears, Bartlett, bx.	1.00	@ 1.25
Other varieties	.75	@1.25
Peaches, crate	.55	@80 c
Small box	.25	@40 c
Lugs,	.65	@ .85
Apples, new Red Astrachan, box	.90	@ 1.25
Apples, Grav., 4-tier	1.00	@ 1.10
4-½ tier	.70	@ .85
Alexander, 4-tier	.90	@ 1.00
Cantaloupes, crate	.75	@ 1.00
Watermelons, doz	1.25	@ 2.00
Grapes, crate, Thompson Seedless	.75	@ .85
Malaga	.75	@ 1.25
Fontainbleau	.30	@ .50

DRIED FRUITS.

The dried fruit market appears in rather nervous condition, with fluctuations from day to day, especially on apricots and prunes. Very little interest is taken in most other lines. The top quotation named on prunes by local packers is for general offerings: It is admitted that better prices have been paid, up to 3⅝c, for strictly first-class lots, delivered at the packing houses in Santa Clara county. As for apricots, various versions of the situation are given. Some packers state that the crop is below expectations, is getting well cleaned up, and that the market is extremely strong. According to others, the buying is all being done by speculators, in hope of a way being opened to ship to Germany; the more conservative firms holding off from the market. Still others attribute the movement simply to the necessity of filling early orders quickly. It does not appear that any very large quantity has yet been sold above 7c, and it may at least be doubted whether the present top figure will hold. Peaches are still neglected, and pears, etc., are not very important factors in the market. Raisins are moving steadily, with a fair export demand as well as the usual eastern business. The New York Journal of Commerce says:

"An order for 3,000 boxes of prunes for immediate delivery to Europe was filled July 29.

"This new order, which comes from an English source which heretofore has not been in the market here for supplies, is taken as an indication that the foreign trade has found an increased demand for prunes and have turned here for stocks to fill their immediate demands.

"Buying in the spot market by local jobbers is slackening. This is said to be only a normal reaction to expect at this time of the year. The prunes are being kept in cold storage and cannot be taken out until absolutely necessary for demand. Consequently, the purchasing has assumed a hand-to-mouth aspect, and this, together with the scarcity of available supplies, has had the tendency to cut down the volume of business which is being done.

"It is reported in the market that there has been a fairly heavy quantity of seeded raisins of old crop within the past few days for immediate exportation to Europe. There has been some movement in this direction in small lots all summer, but the present purchase, from rumors which are prevalent, is one of the largest made. Cleaned Sultanas and Thompson seedless 1914 pack are practically cleaned up in the spot market. The inclination here is very strong and a steady demand is maintaining prices on a very firm basis.

"Advices received from the Coast report that there is a firmer tendency on future apricots."

(Prices to Growers.)

1915 crop.

Apricots, per lb	7	@8 c
Figs, white	3¼	@3½c
Black	2¼	@3 c
Calimyrna	4½	@5 c
Prunes	3	@3¼c
Peaches	2½	@3 c
Pears	5	@8 c

Raisins (in sweatbox):

Loose Muscatels	4	@4½c
Seedless Sultanas	5	@6½c

(San Jose prices to growers, 1915 crop.)

Apricots, per lb	7	@8 c
Prunes, subject to dist.	3½	@3⅝c
Peaches	3	c
Pears	5	@6½c

CITRUS FRUITS.

The eastern auctions sl. / increasing prices for Valencia oranges and a little gain for lemons. Shipments of lemons from California are increasing and all growers are hoping to clean up the large stock in storage during the warm weather period. At New York on Monday, August 2d, Valencias brought from $3.45 to $5 per box average, and lemons sold for $3 up to $3.35 average. Other auction points paid about the same as New York for California fruit.

Oranges receive comparatively little attention in the San Francisco market, and the top price is a little lower than for several weeks past. Grapefruit is higher, with an active demand in the local trade.

(Wholesale Prices, San Francisco.)

Oranges, Valencias, bx.	$2.75	@3.25
Grapefruit, seedless, bx.	2.50	@3.00
Fancy	3.00	@3.50
Lemons, box	1.50	@3.50

NUTS.

There is little new in the nut market, as the new Association prices have not yet appeared. The almond Exchange is awaiting further advices from Europe, as the situation there will have an important bearing on values here. Some buyers are trying to pick up odd lots of almonds in the country, recent offers having been made of 13 to 15½c for Nonpareils.

(Prices f. o. b. San Francisco.)

Almonds, 1915 crop:		
Nonpareil	15½c	
IXL	14½c	
Ne Plus Ultra	14 c	
Drakes	12½	@13 c
Languedocs	11	@11½c
Walnuts:		
Jumbo, lb	19 c	
No. 1-Softshell	16½c	
Budded	18 c	
Ungraded	8	@10 c
Manchurian	6	@11 c

HONEY.

Prices for medium grades of comb honey are a little stronger, as these grades are in demand and no large quantity is offered. Extracted is weak at the prices quoted, as there is more coming in all the time, and only the better grades find any demand.

Water White, comb	12	@14 c
Light Amber	8	@12 c
Water White, extracted	5½	@ 6½c
Light Amber	3½	@ 5 c
Dark	2	@ 3 c

LIVE STOCK.

Young lambs are coming in more freely again, and the price has dropped rather sharply. Otherwise values stand as before.

(Prices at San Francisco.)

No. 2	6	@	6¼c
Cows and Heifers, No. 1	5½	@	5¾c
No. 2	5¼	@	5½c
Bulls and stags	4	@	5 c
Calves: Light	8	@	8½c
Medium			7½c
Heavy	6	@	7 c
Hogs: Grain-fed:			
200 to 300 lbs.			7 c
100 to 200 lbs.			7½c
Prime Wethers	6¼	@	6½c
Ewes	5½	@	6 c
Suckling Lambs	7½	@	8 c

DRESSED MEATS.

Steers	10½	@	11 c
Veals, large	12½	@	13 c
Small	14	@	15 c
Prime Wethers	12	@	13 c
Ewes	11½	@	12 c
Suckling lambs	14½	@	15 c
Hogs	12	@	12½c

WOOL.

No further change is noted, the bulk of the California clip having been absorbed. The market in the east continues strong, with some buying at good prices in various quarters.

Humboldt & Mendocino	18	@	27c
Wool, Sacramento Valley, lb	18	@	22c
Southern, year's staple	15	@	18c
Six months	14	@	16c

HORSES.

Large war purchases are still reported from various parts of the country, the largest being a lot of mules taken from Stanislaus county. Notwithstanding this, the price of mules is said to be comparatively low in the country; and the local horse market is without animation. Very little stock is being shipped to this market at present, and it is hoped that, with the fall revival of business, there will be more demand.

(Approximate values at San Francisco, based on auction sales.)

Heavy drafters, 1700 lbs. and up	$275	@	300
Light drafters, 1550 to 1650 lbs	175	@	200
Chunks 1350 to 1500 lbs.	150	@	175
Wagon horses, 1050 to 1350 lbs.	100	@	140
Green Mountain range horses, 950 to 1200 lbs.	50	@	90
Farm workers	60	@	75

MULES.

1200 lbs. and up	$225	@	250
1100 lbs.	200	@	225
1000 lbs.	150	@	175
900 lbs.	125	@	150

HIDES.

Business continues very active, with a strong market at the recent advance.

Heavy Steers, over 56 lbs.	16	@	17½c
Medium	16	@	17½c
Light Steers under 48 lbs	16	@	18 c
H'vy Cows, over 50 lbs.	16	@	18 c
Light Cows, 30 to 50 lbs.	16	@	18 c
Kip	16		18 c
Veal			18 c
Calf			18 c
Dry Hides	27	@	28 c
Dry Kip, 10 to 15	26	@	27 c
Dry Veal, 5 to 10			31 c
Dry Calf, 7 down			31 c
Horse Hides—			
Salt: Large			$3.00
Medium			2.50
Small			1.00

HOPS.

Prices have taken another jump, and buying continues very active. There is a strong export demand, and it is said that most of the new crop in this state has been sold.

1915 crop, lb	13	@	14c

SPECIAL DECIDUOUS MARKET REPORTS.

By J. L. Nagle.

The Atlantic seaboard markets this past week have shown the effects of increased shipments both from Eastern states and from California and though the receipts of pears were confined practically to California, there has been such a heavy shipment of fruits and berries from all districts that the Bartlett pear market depressed sympathetically.

The California Elberta movement is now at its height. The San Joaquin Valley has been shipping for ten days and Placer county districts will move an immense crop this week. The quality of the fruit is excellent and of good size, and although the demand is not very active on account of Arkansas and Northern Georgia having a very heavy shipment which is now moving, we look for a little flurry in the Middle West, due to the fact that Texas has practically finished shipping, but we do not look for any re-organization of conditions until after the 10th or 15th of this month.

The Standardization Law of California, regulating the weight and pack of fruits for interstate shipment, and also regulating the sugar content of grapes, will go into effect on the 8th of this month. Grapes not testing 17 per cent cannot be shipped from the State. Growers in the Fresno district are trying to get as much of their fruit East as possible before the law goes into effect and as there seems to be an active demand for Malagas they have been considerably encouraged, but unless the grapes test somewhere near 17 per cent we look for some low sales.

The severe hot weather which lasted three or four days during the past week seriously affected the Tokays in the upper San Joaquin valley. The crop will not exceed 65 per cent.

There still seems to be an active demand for Blue plums and we look for this condition to remain normal until Idaho commences shipping Italians in about two weeks.

The following prices have ruled for the week:

New York—Bartlett Pears averaged $1.80; Seckel Pears, $1.25; Burbank Plums, 89c; Wickson, 88c; Gavioto, $1.15; Hinori, $1.40; German, $1.34; Tragedy, $1.25; Kelsey, $1.10; Diamond, $1.50; Quackenboss, $1.70; Malaga Grapes, $1.42; Thompson Seedless, $1.20; St. John Peaches, 60c; Elberta, 62c; Crawford, 50c.

Chicago — Bartlett Pears, $1,60; Crawford Peaches, 52c; St. John, 48c; Diamond Plums, $1.66; Tragedy, $1.51; Burbank, 92c; Wickson, 99c; Satsuma, 84c; Duane, 76c; German, $1.64; Malaga Grapes, $1.70.

Minneapolis — Crawford Peaches, 52c; Foster, 53c; St. John, 53c; Bartlett Pears, $1.65; Malaga Grapes, $1.77; Burbank Plums, $1.00; Wickson, $1.15; Climax, $1.10; Tragedy, $1.85; Diamond, $1.37.

Total shipments to date, 4414; total shipments same date 1914, 5630¼.

Publisher's Dep't.

Beginning with this issue the Rural Press will print a series of articles covering the dairy situation in California, that we believe will be well worth the attention of every dairy, creamery and commission man or distributor. Events have so shaped themselves that "opportunity" is now standing at the doors of the dairy industry. This journal wishes to be of service in the matter and believes that it is doing only its duty in presenting the facts at this time as we find them. Read our first page article this week and succeeding ones during the weeks to follow.

John Vallance, president of the Pacific Coast Nurserymen's Association, was a caller this week to tell us of the arrangements being made for the annual meetings of the Coast as well as the California Nurserymen's Association at San Francisco next week. These meetings are of great practical value to nurserymen and from what Mr. Vallance told us, the members may expect not only a good attendance but fine entertainment and a program that will mean great things for the future.

The Pacific Rural Press expects shortly to publish a new and much needed book on California Swine Breeding. The copy is all ready and only awaits the final O.K. from several practical hog men before going to the printers. We anticipate having the book ready for delivery some time in September. The price will be $2 per copy, postpaid. Advance orders accepted and filled in rotation.

A splendid work has been taken up by the University of Nevada, which will prove of invaluable service to ranchers and prospective irrigators in all parts of the State. A department has been organized to develop and test our water wells in different localities and to assist ranchers in producing water in the cheapest and most efficient manner. This work will be under the direction of Dean Schrugam and water developing engineers have heralded this new movement as one of the most helpful and practical services the Nevada University could perform. The data and first hand knowledge of water conditions will be at the disposal of all those interested in water development. The University has just ordered two new centrifugal turbine pumps to be used in its work. The pumps were manufactured by the Layne & Bowler Corporation of Los Angeles. It is stated that many of this type are in successful operation in all parts of Nevada and the University has selected it as the best suited for its research work.

PRUNE GROWERS IMPRESS EAST.

Following is an extract from the New York Journal of Commerce: Its age by the time of reprinting does not invalidate it:

"It is said that the prune grower is becoming more and more convinced that he will be in a position to enforce his demands for a higher selling quotation from the packer. With this end in view, he is stubbornly holding on to his fruits in anticipation that more money will accrue to him if he keeps control of his crop until September. At present he is firmly refusing to consider the lower price which the packer feels inclined to pay.

The Packers' Hope.—"As the drying season comes on, it is thought that the grower will find himself under the press for ready money; and with his stocks of fruit ready for the market accumulating and the packer tempting him with a fair price for his product, it is expected that he will be ready to sell and retreat from the stand which he is assuming at the present time.

"European inquiry still comes to brokers here, asking for terms and available supplies. It is said that shipments have been made for foreign consignments for several weeks, and more are expected to be made as soon as additional stocks arrive from the coast."

GROUND PHOSPHATE IN FEEDING SHED.

To the Editor: We use a feeding shed which is littered each day with straw to absorb and collect the excretions of cattle. If a quantity of raw rock phosphate were scattered over this manure once each week would any of the fertilizing qualities be liberated before the manure would be spread and plowed under? We "clean up" every three months. —H. I. B., Fallon, Nevada.

[The phosphate rock if finely ground would act as a good absorbent and would not set free fertilizing gases as lime and ashes do.—Editors.]

Two carloads of horses were shipped from Merced on July 21 to Omaha, Neb., for use by the French and English armies.

California Almond Growers' Exchange

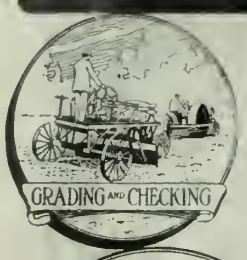
The Exchange has withstood every storm, met every obligation, and has held fast to those teachings which stand on truthfulness, honesty, equity and square dealing in business. In five years it has grown from a membership of 230 growers to 900—a record which stands as a silent testimonial to the efficiency of the Association.

MAIN OFFICE, 311 CALIFORNIA STREET,

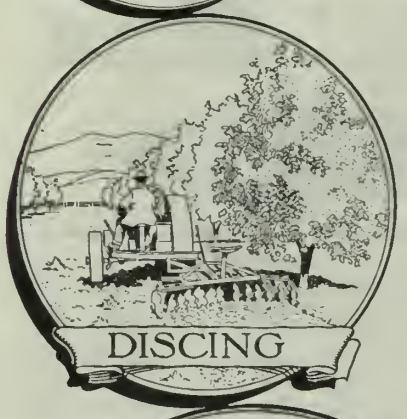
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Vol. XC—No. 7 Forty-Fifth Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO AUGUST 14, 1915 LOS ANGELES

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Aspects of the Olive Industry.

The olive has arrived at economic problems, which also confront other fruits. The writer undertakes to state them and the efforts now being made for their solution.

[Written for Pacific Rural Press by Henry Wolff.]

EVERY industry undergoes a critical period which clearly defines the change from its infancy to its normal development. In California industries this period, or era, generally separates the "boom" stage from the conservative commercial stage. At the present time we have the ripe olive industry changing from a "game," the profits of which are widely heralded by the real estate salesman and promoter, to a legitimate enterprise in the growing, manufacturing and distributing of an article of food which may become one of the leading agricultural pursuits of the State.

That the ripe olive, properly prepared, is an article of merit is uncontradicted. That an olive pickled partially ripe, over-ripe, or poorly processed, is an unsalable product, at least the second time, can be confirmed by packers throughout the State and buyers throughout the United States.

The above facts being true, the problem presenting itself to olive men is to produce a ripe olive of good quality at a profitable price, and to distribute this article to the consumer in a package, the keeping properties of which are certain.



OLIVE PLANTATION ON HILLSIDE NEAR OROVILLE.

The picture gives a good idea of the hillside olive country near Oroville. Above is the crest of "Table Mountain"; next the olive orchard with uncleared land from which it was developed and below the picturesque Feather River.

Although the ripe olive was considered a hopeful article many years ago in California, and then largely abandoned because of difficulties in manufacture, the present phase of the industry has been one of very rapid growth. The high retail price received by the Ehmann Olive Company for their product induced others, who were attracted by the apparent high profits, to enter the field. The fact was lost sight of, however, that the percentage of an olive crop fit to make a ripe olive pickle (especially one which is fit to put up in glass) is a very small one.

A second item often unconsidered is the immense amount of close personal attention required in order to secure a uniform result in curing. Olive pickling, unlike other fruit-packing branches, is carried on under conditions which are not always uniform, e. g., temperature, condition of fruit, locality where fruit is grown, not always being controllable, etc. Therefore, there is bound to be large wastage in the manufacturing.

Unmindful of the above, many individuals and concerns went into the ripe olive business. Large prices were offered for crops, often at unprofitable prices to the packer, in order to "break into the game," and contracts entered into where fruit was bought up for several years regardless of its condition or size. The large returns received by the growers caused great plantings of olive trees and better care of those groves already bearing. At the present time, although the bearing acreage in California is not much greater than it was four years ago, the tonnage of olives is nearly double, owing to better care in irrigating, cultivating and fertilizing.

And so we come to the conditions of today: A large crop is maturing on the trees. Jobbers and retailers are heavily stocked with ripe olives, mostly of the smaller sizes. A large stock, also, of the smaller sizes, and poorer qualities, is still in the hands of the packers, and the financial condition of the country not warranting luxuries, and ripe olives being sold as such, their sale is slow. Fruit costing the packers from $125.00 to $160.00 per ton is being sold below cost in order to realize some money to hasten their movement. The consuming power of the East is great, but the ripe olive is not well known and the distribution of the product is restricted. And still the large crop keeps on maturing.

It is now reported that many growers unable to sell their fruit at what they have deemed remunerative prices have entered the field of packers. Not having the capital or knowledge of processing, we have an additional supply of fruit, poorly packed, thrown on the market at prices which are way below the actual selling price of the fruit on the trees.

A few figures taken from olive packers and growers throughout the State may prove enlightening. The figures, we believe, typify actual conditions.

Pickling Olives.—A ton of olives will produce three hundred and sixty gallons of pickled fruit, provided there is no wastage. However, not every olive picked is suitable for good quality pickles, for a percentage is always bruised in picking, transporting and curing. If an average of $1.00 per gallon, which is liberal, is received for every gallon of pickled ripe olives, we have a gross income of $360.00 per ton to the packer. Taking—

$125.00 as a cost of fruit on the trees,
15.00 as a cost of picking,
4.00 as a cost of hauling,
25.20 as a cost of cans, at 7c each (360 gal. cans),
100.00 as a cost of curing, materials, labor of sorting, cost of canning, labels, etc.,

we have a total of $269.20, which allows $90.80 as the difference be-

(Continued on page 149.)

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California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at 5 p. m., August 10, 1915.

STATIONS	Past Week	Seasonal To Date	Normal To Date	Max'm Temperature	Min'm Data
		Rainfall Data			
Eureka	0	.26	.12	64	50
Red Bluff	0	0	0	100	60
Sacramento	0	0	0	96	56
San Francisco	0	.01	.01	72	50
San Jose	0	0	0	86	46
Fresno	0	0	0	102	60
Independence	0	.04	0	96	58
San Luis Obispo	0	.01	.03	88	50
Los Angeles	0	0	0	90	58
San Diego	0	0	0	76	62

THE WEEK

Next week the Gravenstein Apple Show will be on at Sebastopol and it should be the best event of a most unique and influential series. We have always admired the youthful vigor and enterprise with which "Old Sonoma" has demonstrated that there is no senility in its blood. Sonoma was one of the first California counties to respond to the touch of development before and after the invasion by the gold-seekers, and was disposed to take a nap while the spirit of enterprise was awakening in parts of the State more distant from the metropolis. During more recent years Sonoma has been wide-awake and anxious to show that it is not really distance from San Francisco which should lend enchantment to the view. This disposition has been most marked in the rich and delightful small valleys on the west side of the county, and the exponent of its spirit has been the series of Gravenstein festivals at Sebastopol. The region is unique in the excellence of this early apple which it produces and in the use made of the distinctive product in industrial development. California apple production may have bounds set upon its profitable extension by the achievements of other winter-apple States, but in the early maturity of fine fall apples it can have no rival. As soon as Sebastopol really went to work to handle an early apple with the push and enterprise which was hitherto reserved for the long-keeping winter varieties, it won success and recognition because it had zealously entered upon a very excellent and distinctive California undertaking —that of wide shipment of early apples before any other State could ripen them, and it fortunately specialized upon the early apple of greatest beauty and highest quality, which in some parts of the State is as illusive in bearing as it is good when secured. Thus Sebastopol did just the thing to which nature and enterprise gave her good title, and the annual displays which are made are among the unique and characteristic things which California can show in fruit-growing. We hope Sebastopol will gather a great multitude next week—even if it depopulates the Panama-Pacific!

Man Breeding.

From the fact that we did, in these columns of the issue of July 24, insist on grouping babies, calves and pigs in joint possession of the same principles of early physical development, we apprehend that we may be thrown in with the apostles of "race-betterment," who had an exposition-congress last week and filled the daily journals with their recipes for breeding better men and women along the lines approved in the experience of those who have accomplished most in the improvement of plants and domestic animals. Conscientiously we must object to such affiliation, and we do it with some sacrifice of the delights of personal vanity, because this writer has exactly the stature and weight decided upon by the race betterminters as the ideal of perfect manhood, and possibly they might allow us to walk among them as a god—therefore, no claim of "sour grapes" can be urged against our declination of their adulation. However, even at such great sacrifice of personal vanity, we are compelled to decline their point of view and to doubt the practicability of their methods and the desirability of them, even if demonstrated to be practicable. For, if their contentions lead to anything, their influence must be toward the selection of human ancestors according to standards of physical weight and measure and the establishment of a registry of these characters in detail, from which it is advised that life-partners be selected by men and women having designs on posterity. Although more regard for good physical characters is surely desirable, and the present agitation may call wholesome attention to it, we must protest the inadequacy of the standard because it omits the best things in humanity—the things which differentiate humanity from plants and from the lower animals. We do not argue this point; it is up to the preachers and other idealistic philosophers.

The Waywardness of Man.

The inadequacy of a basis, largely or wholly physical for movements toward ancestry, may be thus summarily abandoned, because in practice, the youth of both sexes could not give even the slightest regard to it. It does not include the tastes and emotions, which are the moving forces in human action. No matter how clearly the formula for a race-betterment partner might be fixed in the head of a man or a woman, it would not take much of a bump of the heart to blur it into the exact measurements of the actual charmer in whom the senses reveled. There has been race-betterment effort all down the ages, probably. Formerly it was as complete and autocratic as the present reformers could desire. The parents settled it and the kids made the best of it. As personal freedom and responsibility arose in the minds of man, this tyranny of parents was repudiated, and such tyranny has had to be content with playing the villain in dramas and novels ever since. In real life it now only exists in the tears of doting mammas, the scolding of maiden aunts and the occasional disinheritance by angry fathers. The most conspicuous character of such tyranny at the present time is its impotence. The young people do not care a whoop for it. Romeos climb conductor pipes and Juliets slide down knotted-sheets, and it looks as though they would continue to do so to the end of time. And we are not sure but it is much better for the race that way than any arrangement by physical formula could possibly be. It is often the birth of adventure, of resolution, of enterprise in the human heart. Its products are often independence, intrepidity, self-sacrificing companionship among those who might otherwise have never been awakened from the absence of these qualities. But we are not arguing for it; it is sometimes most regrettable in its consequences: we are simply taking it for a fact in the lives of human beings and deploring efforts at prescription, which take no account of the boldness and heroism of it, on the whole. And it is a fact which cannot be annihilated. In spite of all authorities, the young giant will still choose the sylph, whom he can hold aloft on his extended palm, and the young giantess will still enfold in her ample bosom the little shrimp who captures her affections. And we have always, most scientifically, believed that this was good for the average and general advancement of the race through the banishment of both giants and pigmies from the earth. This old natural method of selection has worked by playing extremes against each other and continually raising the average. The new scientific method of measurement and registry and establishment of an ideal standard, aims to play both ends against the center, and we are not at all sure that it is so good a game.

The Burbankism of It.

Naturally our race-betterment reformers try to get something concrete to put in the foundation of their propaganda, and so they call upon Mr. Burbank to pour his experience into the trenches they have dug. According to a reporter's notes, he said this: "It is becoming increasingly necessary to impress the fact that there are two distinct lines in the improvement of any race; one by favorable environment, which brings individuals up to their best possibilities; the other (ten thousand times more important and effective), selection of the best individuals through a series of generations. By this means and by this only, can any race of plants, animals or man be permanently or radically improved. When these two lines of action are combined, all the best qualities of any type are brought forth and fixed—and the field for improvement is limitless."

This is a perfectly rational and practicable scheme of improvement in the reproduction of organisms which are under control of man. If mankind were under the control of man its improvement would also work—providing the standards of selection were the right ones, but man has never gained control of mankind as he has of plants and the lower animals, and, in the nature of the case, he never can. Laws and customs have prohibited commingling of races and classes with more or less success, but, outside of royalty, no individual prescriptions of partnership have been made except in bondage or in patriarchal practice, and that, as suggested above, is abhorrent to modern conception of individual rights. Therefore, the art of the plant and animal breeder does not apply to the breeding of mankind, for the enforcement of it would be a resurrection of slavery—an institution which has always tended to the debasement of a race and never toward

its improvement. But, it may be said, race-betterment congresses do not contemplate control, but only suggestions to influence individual selection. To that we have to say that undue emphasis upon physical standards may endanger considerations of greater moment. Any associated effort for marriage which obscures the light of true love, with its essential qualities of loyalty, devotion, self-denial, incentive to industry, etc., and exalts the scale and tape line as equivalent thereof, or as superior thereto, substitutes the transient for the enduring and robs mankind of its most godlike element.

An Important By-Product.

Though we seriously doubt both the wisdom and the practicability of the race-betterment movement in its aims at man-breeding, and are disposed to deny the analogy claimed on the rich experience of Mr. Burbank, we welcome the publicity given to such experience in the breeding of plants and animals. The wider public knowledge of such experience, and the discussion of it, will tend irresistibly to the wider use of it in its proper sphere. It is even possible that the striking announcement of physical defects in man, which adherents of the new doctrine are making, will arouse breeders of organisms which have, except in most elementary form, neither will, nor emotion, nor moral sense, to make much better use of the plastic forms of life upon which their industries rest. They will, of course, be influenced by the emphasis which is placed upon physical selection, and they will appreciate more fully that selection requires something good to select from. If they will read the addresses and discussions at the race-betterment congress, which we doubt not the society will soon publish for the widest circulation, they will find them so strong a demonstration for live-stock and plant improvement that they can no longer fail to give heed to such improvement in their farming operations. Though we are inclined to doubt whether the current race-betterment effort will do much for the human race, because it cannot reach to the deepest things in human life, we are quite sure it will knock out many a poor plant and scrub animal from the reproduction of its kind. It may not give us better men, but it will surely raise the standard in bucks, bulls and stallions.

Let the Monkey Do It.

Strikingly suggestive, in view of the onrush of the race-bettermenters, comes the claim that California ought to have an experimental monkey ranch. If the plan of Professor Robert H. Yerkes, eminent scientist and member of the zoology department at Harvard, is carried out, a big monkey farm for experimental purposes and for biological study will be established in Southern California. Prof. Yerkes announced his plan last week at one of the sessions of the Association for the Advancement of Science, and declared California to be his choice of location for monkey-study in preference to Borneo, Jamaica, Porto Rico and other tropical regions. Of course, demonstration with monkeys would not disprove the radical objections we have made to the whole scheme, and yet the reformers might think they were getting a little nearer to the real thing, for Prof. Yerkes says: "Surely it is high time to make provision for the thorough biological study of those organisms which are most similar to man and from whom, therefore, experimental pathology, genetics, psychology and the social sciences and technologies may be expected to obtain information of immeasurable theoretical and practical value." He also says: "It is proposed to study the instincts, ideational behavior, and social relations of the anthropoids." These profound issues, so far as we are able to understand the names of them, seem to resemble very closely the targets which the betterments are setting up and in the present situation the suggestion of Prof. Yerkes must be what is sometimes called "almost providential." God save the human race!

Queries and Replies.

Querists must give name and address.

Fruit Trees After Vines.

To the Editor: I have heard that it is very difficult to establish a good orchard on a piece of ground which has been used as a vineyard. Is this true? If it is true can you tell me why?—A Constant Reader, S. F.

Why, yes, in a way—but not necessarily nor always. Good orchards are now standing on lands formerly occupied by grape vines, and some of them have been brought along for a time without removing all the vines. It depends upon the soil and how reasonably and diligently the work has been undertaken. If the soil is shallow the vines may have reduced it to poverty in plant food. If the soil is disposed to run together, the prolonged shallow culture of the vines and lack of humus may have made it hard and rebellious in tillage. In either of such cases it is hard to get trees into good growth immediately after removing vines. There should be an interval of manuring, deep plowing and thorough, deep harrowing for field crops before the trees are planted; and grain, followed by potatoes, beans, or beets, is particularly good. A run of the land with alfalfa is best of all to revive and mellow it. But on deep loams, though such rotation is also desirable, good trees can be grown right after vines with good tillage and adequate moisture, either from rainfall or irrigation.

Harrow or Disk on Alfalfa?

To the Editor: Which is the best to use in stirring or loosening the ground on alfalfa, a spring tooth harrow, or a spike-tooth disk?—E. L., Winton.

It depends upon the soil, the age of the stand and what you are worrying the alfalfa for. Each grower is likely to answer it according to his conditions, and therefore all types of alfalfa-agitators are well spoken of. If that is to loosen up the soil crust, the full disk set pretty straight and the spike forms of revolvers will all do it—the spikes usually giving most trouble in clogging by winding rubbish. If the alfalfa is well rooted, full disks and spring tooths do not usually injure the crowns, and are widely used. If the alfalfa is to be cleaned from grass, etc., the spring-tooth works well. On the whole there is probably no best tool for the purpose, just as there is no best plow, or incubator, or agricultural editor. Keep trying them until you get the one that suits you.

Profitable Age of Apricots and Cherries.

To the Editor: What is the probable bearing quality of apricot trees 16 to 18 years old? The trees are large and healthy and have been fairly well cared for. The orchard is in Santa Clara Valley, west of San Jose. Are such trees too old to be profitable? If still serviceable, what kind of treatment should be given them to get the most out of them. There are also cherry trees of the same age. Have they passed their usefulness?—Enquirer, Berkeley.

Such trees as you describe must be counted in their prime. On soil of good depth and drainage and well cultivated they may be expected to bear profitably for fifteen years more—and, if everything goes well, perhaps much longer. Under such conditions both apricots and cherries are long-lived trees. They will need intelligent pruning to remove inferior and weakening wood and encourage newer and more thrifty growth. Fertilization is likely to be required and adequate moisture is essential, either by rainfall or irrigation. Old trees usually disclose weakness by dying back of branches from the top and this can be prevented by pruning, fertilizing and irrigating, when necessary—providing the soil has depth and drainage which favor long life and vigor in the root.

Red-Humped Caterpillar.

To the Editor: I have 40 acres young orchard, and find these worms which I send scattered here and there. So far I have only found them on walnut and prune trees. When they start on a tree, sometimes they strip it clean of leaves and other times take one branch. What are they, and what is the remedy?—W. S., Elk Grove.

The insect is the "red-humped" caterpillar—so called from the spiny protuberance just back of his neck, so to speak. He is an old enemy, having been known from pioneer times, but is not often abundant. As the worms go to the ground about this time of the year, and spin near the surface, they are probably largely killed by subsequent cultivation. When they appear only here and there on small trees, hunting and finger-crushing is the cheapest treatment. When abundant they can be poisoned with arsenical sprays. As they have fierce appetites they should not be allowed to get much headway.

The Jujube.

To the Editor: I am sending you some branches with fruit and leaves. What kind of fruit is it, and is it good to eat or for preserving, etc.?—A. R. P., Garrison, Texas.

The plant is the jujube (Zizyphus jujuba). It has been slightly grown in California for the last forty years or more as a low ornamental shrub with white flowers. The fruit is edible and its juice is used to some extent by confectioners in making a translucent elastic paste. The plant thrives in California, both along the southern coast and in the hottest interior situations, where it is grown by irrigation. It fruits profusely, but little use is made of the fruit. The jujube is chiefly grown and used in China; the fruits dry readily and seem to please the Asiatic taste, for they are found in the Chinese provision stores as imported from China.

Spider Nests on Potatoes.

To the Editor: Enclosed find a potato peel which is affected with a scale of some kind. What is its name and does it do much damage? The sack full we bought is not badly affected. —G. C., Ellsworth.

The brownish flat, scale-like bodies, about a quarter of an inch in diameter, are the remaining receptacles of spider eggs which have flattened down after the young hatched out and went about their business. The adult spiders evidently found the potato collection a snug harbor and used it for reproductive purposes. They of course have no appetite for potatoes and are not a pest thereof.

Little Change in Crop Prospects.

[Written for Pacific Rural Press.]

The most marked crop change since our last report is about the Tokay region, where hot weather seems to have seriously damaged the crop while mildew has been very active. The Fresno raisin crop is full, but the table grapes about ¾; Alameda, Tehama, Glenn, and Merced report 4-5 crops. The estimate has dropped 25 points in Lake county and 5 in Yuba for the seedless, while Yolo is reported as a full crop.

Alameda almonds reported 45 per cent last month, are 80 this; Glenn estimates by the farm adviser are 25 per cent lower than the last report. Los Angeles is up 25 points, Yuba down 5, the rest of the reports show no change.

Apples in the main are unchanged, though slightly reduced in San Bernardino, Inyo, Eldorado, and Glenn counties. Placer county apples are all harvested.

Apricot reports show reduction from last month and are largely off the trees. The crop was light owing to unfavorable spring weather and brown rot on the ripening fruit.

Olive prospects are reduced in Tehama, Monterey, and San Bernardino counties.

Figs and grapefruit show no appreciable change. While Los Angeles reports a full crop of lemons, Ventura and Fresno lower their estimates 15 and 20 per cent. Los Angeles oranges are given as 90 per cent while Fresno, Kern, and Riverside have lowered their figures by 10 per cent.

Yuba peaches look 10 per cent better than last month, Eldorado and Merced 5 per cent better; Tehama, 5 per cent lower, Yolo and Glenn 20 per cent down, and Humboldt 25 per cent down. Placer's extra heavy crop of shipping peaches are about half moved.

Pear prospects have improved in most parts of the state, with Sonoma reporting a 25 per cent loss from last month. Placer's full crop is ⅔ moved to the East.

Plums show slight variations up or down in the various counties, Los Angeles having lost 20 per cent.

Prune prospects are but little changed, though the lighter-producing districts show improvement with a report from Russian River of propping the trees for the big prunes. Cracking has spoiled a great many in various sections. Sacramento valley has lost about 10 points for various reasons.

Walnuts still show no material reduction in the heavy producing districts.

Penryn, Placer county, reports the biggest crop of all kinds ever produced in that section. Merced sweet potatoes were reduced to 75 per cent by lack of irrigation due to a broken ditch and low water in the eastern rivers. Alfalfa yield in Yolo is reported below normal due to excessive early rains. Santa Barbara ranchers are planting carobs for stock feed. Yuba rice on 2600 acres is in excellent condition, and the horticultural commissioner is encouraging the planting of mulberry trees to anticipate a silkworm boom.

THE Chevalier barley business in California is on the down grade. About 20 years ago California produced, in round numbers, 12,000,000 to 15,000,000 bushels of barley, of which about 20 per cent was Chevalier. Last year California produced about 40,000,000 bushels of barley, of which only 1 per cent was Chevalier. During the current year, California is expected to produce about 24,000,000 bushels of barley, of which about 350,000 bushels will be Chevalier, and the balance 6-rowed barley.

At the time that 20 per cent of the California barley crop was Chevalier, the market for the same was particularly in England, but England greatly prefers the 6-rowed barleys, and for the last few years no Chevalier whatever has gone to England.

At the time that California produced large quantities of Chevalier, the difference in price between Chevalier and 6-rowed was very slight; the advantage being in favor of the Chevalier. That advantage ordinarily abounted to about 5c per bushel, but it was a hazardous crop, as sometimes when the brewers did not want Chevalier and it had to be used for feed it would not fetch as much for feed as the 6-rowed barley, consequently the growers cut down the production, especially as it is a harder crop to raise than the 6-rowed.

In the last few years, since Chevalier has become scarce, the difference in Chevalier has gone very high, and at the present time, during the end of the 1914 season, the difference is as high as 30c per bushel, and yet this 30c per bushel preference of the 1914 season has not influenced any growers to increase their production of Chevalier; in fact, the production is smaller because, on the general run, the 30c difference is not a reliable difference as the growers cannot count upon there being a substantial difference in any future season in favor of the 2-rowed barley.—Letter of H. E. Clemens Horst of S. F. to Robert Wahl, Chicago.

Washing Increases Decay in Oranges.

But the injury is reduced to small amount by careful handling, and heated air is effective and cheap.

During the past two or three years there has been a great increase in the washing of oranges in the packing houses of Southern California, and the indication are that a much larger proportion of the fruit will be submitted to this treatment in the future unless effective measures can be used for the control of scale and sooty mold in the orchards.

The results of the investigations of the Bureau of Plant Industry have shown that washing, even under the most favorable conditions, is followed by an increase in the decay in the packed fruit.

During the orange-shipping season of 1914-15, an investigation was conducted by the Bureau to determine the relation of handling to the occurrence of decay resulting from the methods used in the washing and subsequent drying of the fruit. The work was undertaken at the request of the Citrus Protective League and packing-house experiments were made in ten different houses during the season.

Orange Washing and Drying Experiments.—The handling experiments were planned to make a direct comparison of fruit very carefully picked by the bureau men with the same kind of fruit handled under ordinary commercial conditions. The fruit was packed and held in the packing houses and the percentages of decay in the various lots were determined by inspection at the end of two weeks. The different lots included carefully handled and commercially handled fruit washed in the ordinary machinery, part of which was packed while still moist or wet and an equal amount of fruit which was thoroughly dried before packing. Part of the same fruit was packed without washing or brushing. These experiments were designed to show the effect of the washing process on the keeping quality of the fruit and to furnish data indicating the percentages of the decay due to the wet or moist condition of the fruit at the time of packing.

The results of these tests show that the percentages of decay in carefully handled fruit were increased from 1.8 per cent in the unwashed fruit to 3.4 per cent in the washed and thoroughly dried fruit, and was increased to 3.9 per cent in washed fruit packed wet. In the ordinary commercially handled lots the average percentage of decay in the unwashed fruit was 8.3 per cent. Washing followed by thorough drying increased the decay to 11.4 per cent, and in the same fruit packed wet the average decay was 13.9 per cent. The difference in the percentages of decay developing in the wet and dry-packed fruit was considerably greater during the period of cloudy or wet weather early in the season. The figures given are the averages for the whole season.

Relation of Handling to Decay in Washed Fruit.—The results indicate that the losses from decay resulting from packing improperly dried oranges are directly in proportion to the care exercised in the methods of handling. Fruit showing a high percentage of mechanical injuries develops the maximum amount of decay following washing without thorough drying. In the fruit that was picked with sufficient care to avoid serious injuries there was a comparatively small increase in the decay in the lots that were washed and not thoroughly dried before packing. It is probable that a greater difference in favor of very thorough drying would have been shown if more efficient methods of handling the specially dried lots had been available during the early part of the season.

Methods of Drying Oranges.—By heating the air blast used in orange dryers the relative humidity of the air is lowered, which increases its capacity for absorbing the moisture on the surface of the fruit. Experiments were made to determine the time required to dry the fruit under different conditions of temperature and humidity. The most rapid evaporation of the moisture on the fruit took place with dry air at a temperature of 130 degrees F. The time varied from approximately 11 minutes with an air blast having a temperature of 55 degrees and a relative humidity of 70 per cent to about one minute with air at a temperature of 130 degrees and 14 per cent humidity. The bearing on the methods of drying oranges under commercial conditions is shown by the considerable reduction in the time required for effective results when a dry air blast is used. The use of Calcium chloride in conditioning the air has not yet been demonstrated to be as effective or practicable for this purpose as heat. The temperature of the fruit was not increased materially after two minutes in an air blast at a temperature of 130 degrees.

Experiments were conducted with two different types of dryers. In one of these the roller conveyor was used and the air blast was forced through narrow openings above the fruit which was extended across the conveyor parallel to the rollers. The openings were formed by air nozzles about three inches wide, the air apertures being about one-quarter of an inch in width. In the other device a rope conveyor was used and the fruit passed through narrow trough-shaped runs, the air blast being forced on the fruit from the sides and bottom of the runs.

In the experiments conducted with the dryers it was found that infection with blue mold may be increased if the dusty air of the packing house is blown on the fruit in the air blast. In an efficient system of drying the cost of heating the air to a temperature of 130 degrees should not exceed one dollar per car of packed fruit.

NITRATE OF SODA ON SAND.

To the Editor: What is the best commercial fertilizer for light, sandy soil? I have not enough manure to cover all the ground this fall.—W. F. S., Ripon.

[Theoretically at least, the best way to use a limited amount of stable manure is to spread it more thinly and use with it a "complete" commercial fertilizer, which approximates its composition. Good practice is to grow a cover crop with fall and winter rainfall and to apply the fertilizer to push the growth of the cover crop, or to scatter the commercial fertilizer on the cover crop and plow the two in together. Nitrate of soda is also used to stretch out stable manure, but it should be applied toward the end of the rainy season usually, although of course it may be used to push a winter growing crop. On land not covered with plants to use it, nitrate should not be used while there is too much water moving to carry it away.—Editors.]

Three car loads of Pajaro valley apples have been shipped to Buenos Aires, Argentine Republic.

POTASH is so widely advertised and commercial potassium has been given such a prominent place in most of the experiments relating to soil fertility, both in this country and abroad, that the greatest natural source of potassium,—the soil,—like the inexhaustible atmospheric supply of nitrogen, is not generally understood or appreciated.

The fact is that the total amount of commercial potassium applied annually to all the farms of the United States is not more than is contained in one square mile of common corn-belt land to a depth of six feet, and the important potash problem is how to liberate it as needed from the inexhaustible supply already contained in all normal soils.

It seems plainly evident that potassium need not be purchased for use on normal soils for the production of the staple farm crops, but that it may easily be liberated in abundance by means of decaying organic matter, such as green manures, crop residues, and farm manures; and, of course, these materials, if applied in sufficient quantity, will supply nitrogen and liberate phosphorus from the phosphates naturally contained in the soil or applied to it where needed.—Cyril S. Hopkins in Illinois Experiment Sta. Bulletin 182.

Bumped by Bumper Crops.

To the Editor: I like your paper for the simple reason that it is the only possible way of becoming acquainted with reliable prices going in our dried fruit market. Think of the many millions annually spent on fool education all over the nation; and, remember that the American producer is just as ignorant as to what he should know about his business as the most ignorant savage. The middle men are well supplied with true and reliable figures. They recognize the fact that such knowledge is necessary in their business. We have no figures or facts; nothing but interested reports and guesswork to guide us in absolute darkness.

Again, you, like all other farming papers, indorse the bumper crop system. You teach that where one blade of grass now grows three should be grown to the advantage of all. And you recommend that all the waste land of the country be used in production. But it is an insurmountable truth that an acre of land kept out of the race of production may pay just as much or more that its neighbor, the acre planted to the same product, in the higher price that would prevail if some sort of check to our production were possible. It takes over a whole year to work off a bumper crop. It is not possible to figure on the time that will free the market of two bumper crops, and three bumper crops in succession will ruin the industry. Overproduction means underconsumption as sure as one and one make two.

How do the big trusts handle the problem? And they do handle the produce. Just the same as we do? No; they work in an entirely different manner. They first get the figures and facts—true facts, not middle men schemes. Then they find the demand, and produce according to what they can sell. If they can't sell a staple, they find it out before they raise the bumper crop, as the fool farmers do. If there is no demand ahead, they lay off and rest till the demand comes. They are able to sell stock and wax rich. Let us think it over.

W. N. Anthony.

Cupertino.

ASPECTS OF THE OLIVE INDUSTRY.

(Continued from page 145.)

tween selling price and cost to cover interest, overhead, cost of selling, cost of damaged fruit and profit.

Oil Olives.—A ton of ripe olives will yield from thirty to forty gallons of olive oil, which, at a selling price of $2.00 per gallon, makes a gross selling price of $60.00 to $80.00, out of which has to be taken cost of fruit, cans, labor of expressing the oil, filtering, clarifying, etc.

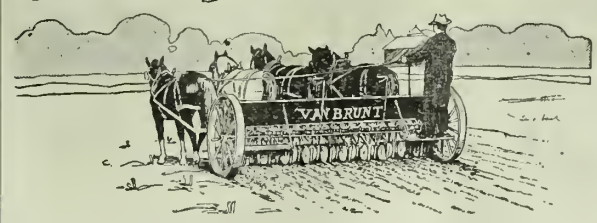
The above figures are average and can be confirmed by any packer of ripe olives or producer of olive oil. For some grades of ripe olives more than $1.00 per gallon is received but at the present time there are thousands of cases of gallons being offered at 50c and 75c per gallon.

And so we have the problem; the next step is to find its solution. All of the large industries of California have undergone their critical periods. We have only to refer to the orange, raisin, walnut, almond and many other like agricultural branches to attest that they all must weather their storm. At the present time there is a California ripe olive association formed in Los Angeles, the object of which is to standardize the pack of ripe olives. This organization has for its motives the betterment of the olive industry, but those interested in northern California projects have been a little chary in joining—prompted probably by local jealousy. A second organization is under way in San Francisco, having for its purpose principally the exploitation of the olive industry. At the same time the American Olive Company (the largest packers of olive products in the state) realizing the significance of the present conditions, have sent a circular letter asking for suggestions to alleviate present conditions and take care of the coming crop.

The result of these nidividual endeavors is difficult to ascertain at the present time, but in order to succeed the keystone of the situation is that the popularity of the ripe olive and its greater distribution will have to center on a uniform product of good quality, and whatever evils exist at the present time will have to be eliminated or made subservient to the fundamental requisite: Uniformity of pack and quality of product.

Orange growers of Orange county report a light setting of fruit, some even estimating the crop at one-half that of th last season.

John Deere Implements



Van Brunt Single Disc Grain Drills

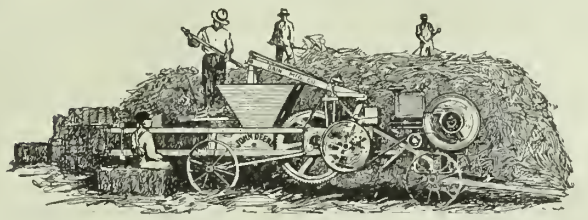
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Home Canning: Unfermented Fruits and Juices---VII.

[Written for Pacific Rural Press by W. V. Cruess, University of California.]

Most home-canning recipes for fruit juices call for boiling the juice. This is a very serious mistake to make, because the delicate flavor of the fresh juice is in many cases completely destroyed by boiling and is always very badly injured. Heating of the juice is necessary to kill the molds and yeasts present, but these can all be killed at 165 degrees F., which is 47 degrees F. below the boiling point. At 165 degrees F. a great deal more of the fresh flavor and aroma is retained than at 212 degrees F.

Containers.—Fruit juices attack tin; for this reason, glass bottles are most suitable. Glass fruit jars can be used, but are more expensive than bottles.

Extraction of Juice. — Berries, black grapes, and currants should be crushed, heated in a double boiler to about 130 degress F. and kept at that temperature until soft enough to press, or until sufficient color is obtained from the skins. The free juice can then be drained off through a sugar sack or flour sack and the remainder of the juice pressed out by twisting the bag. White grapes are pressed without heating. Berries and grapes are readily crushed with the hands or with a wooden potato masher or in some similar manner. Apples can be crushed with a meat chopper and pressed through a cloth placed in a small fruit press. Oranges, lemons, and pomelos are best handled by cutting in half and extracting the juice on a glass cone. The juice can be strained through cheese cloth.

Where a considerable quantity of juice is to be made it may be desirable to use some form of a small fruit crusher and press.

Clearing the Juice.—It is often difficult to make fruit juice perfectly clear and brilliant without more or less expensive filters. However, a jelly bag will frequently aid in giving a fairly clear juice. A heavy felt about ⅜ in. thick is best for this purpose. This is made into a conical shaped bag that can be hung up from two corners in a convenient place. It will be found that the addition of a handful of infusorial earth per gallon of juice will greatly aid in filtration. By starting the filtration in the evening, it may be allowed to go all night and time may be saved in this way.

If the fruit is fresh and sound the juice may be allowed to stand over night after pressing. It will deposit considerable pulp and can then be draw off from the sediment and strained through a jelly bag if so desired.

Some fruit juices will settle clear after pasteurizing in bottle. The finely beaten white of one to two eggs added to each gallon of juice before pasteurizing will often cause the small suspended particles to come together in flocculent lumps which settle out leaving a clear juice. The clear juice can then be poured or syphoned off from the sediment and repasteurized in bottle.

Bottling.—The bottles should be clean and should be scalded before use by putting them in water and bringing the water to a boil.

Beer or soda water bottles can be closed with metal, corklined caps. Small capping machines sell for about ten dollars; any druggist can give information as to where one can be bought.

Plain bottles or bottles of the above type may be corked with ordinary taper corks or wine corks of good quality. They should fit very tightly into the bottles. The corks should be sterilized by boiling about ten minutes in water. They should be taken directly from the boiling water to cork the bottles. Molds from imperfectly sterilized or leaky corks cause more spoilage of fruit juices than any other one thing. Corks must be tied down with string or held down by clamps during pasteurizing; caps do not require this attention. The bottles may be filled to within one to one and a half inches of the cork; a small space of this size must be left for expansion of the juice during pasteurizing.

Pasteurizing. — Pasteurizing of fruit juices is primarily a process of heating the juice to a high enough temperature to kill all molds, yeasts, etc., present so that the juice will keep. Secondarily it is used to coagulate the material causing cloudiness in the juice and in this way often causes suspended matter to settle out as a compact sediment. The clear juice may then be separated from the sediment, rebottled, and pasteurized.

A temperature of 165 degrees F. should be reached inside the bottles to insure that all molds are killed. A wash boiler with a false bottom of heavy wire screen or wooden slats makes a convenient pasteurizer. The bottles are placed in a horizontal position on the false bottom—they may be stacked into the pasteurizer four or five layers deep if necessary. Placing the bottles horizontally makes certain that the corks or caps be well heated. The boiler is then filled to two or three inches above the bottles with cold water. One bottle should be closed with a cork through which a thermometer is fitted, the bulb of the thermometer being well immersed in the juice or water in the bottle. The water is heated slowly until the juice in the bottles reaches 165 degrees F. and is maintained at this point for about five minutes. Or, if it is inconvenient to fit a bottle with thermometer, the water in the sterilizer may be heated slowly to 170 degrees F.; this temperature should be held about five minutes. This will insure a temperature of 165 degrees F. in the bottles. The juice should then be removed and allowed to cool, preferably in a horizontal position so that the corks are given a thorough heating to kill any molds that may have gotten on the corks during corking.

If corks are used, they must be paraffined heavily after pasteurizing so that the vacuum formed on cooling will not draw in mold spores, through pores in the cork. Dipping the ends of the bottle in melted paraffin several times will coat them satisfactorily. Caps do not need to be paraffined.

Settling and Clearing Pasteurized Juice.—If the juice settles clear several days after pasteurizing, the bottles may be opened, the juice separated from the sediment, rebottled, and pasteurized as described above.

Great Britain has agreed to the importation of German sugar beet seed provided it is shown that the seed is purchasable only in Germany and that shipments are made from a neutral port.

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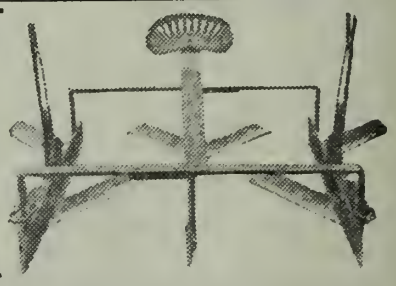
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General Agricultural Review.

HORTICULTURAL NOTES.

The first car of Thompson Seedless grapes from Dinuba realized in Chicago $1643, an average of $1.77 per crate.

With the supply from Turkey cut off, large quantities of California raisins are being bought up for shipment to England and France.

The Malaga grape crop in the Kerman district of Fresno county is reported good and packing will, it is expected, commence within a week.

The Farm Adviser of Solano county will hold meetings at Rio Vista, August 17th, Vallejo, August 19th, Suisun, August 24th, and Dixon August 26th.

County farm advisers will meet at Berkeley to attend the convention of the American Association of Agricultural Colleges and Experiment Stations during August.

A number of fruit growers of Tulare have formed the Tulare Fruit Growers' Association, the charter members being chiefly peach orchardists.

Offers of 77½c. per box are reported to have been made for Bellefleur apples from the Pajaro Valley. The fruit is said to be showing good size and high quality.

The Farmers' Union of Gridley sold to Libby, McNeil Company almost the entire crop of Tuscan cling peaches in that district, amounting to 100 tons, the price being stated as $8 per ton.

The grape crop in the Lodi district of San Joaquin county is said to be about two weeks later than last season. Some Thompson Seedless have been shipped and other varieties are showing well.

About 20,000 tons of raisins constitute the holdover from last season's crop, but it is hoped to dispose of these before the new crop is ready, with chances for better prices for the latter.

Eighty million is the estimated loss of the fruit growers of Palestine owing to the seizure by the Turkish government of all petroleum, etc., leaving nothing that can be used for spraying and running irrigating power.

County Horticultural Commissioner Lamiman of Shasta county estimates the prune crop for this year in the Anderson valley at 1500 tons, which is somewhat above the average. The fruit, he said, was of fine quality.

In the Dinuba district of Tulare county, the price of watermelons at the end of last month fell from $15 to $3 per ton within a couple of days. A good part of the crop, however, had been contracted for previously at $6 per ton.

Apropos of the European demand for California green and dried fruits, freight rates have advanced to such a point as to make the shipments of some products unprofitable. Apple shippers especially view the situation with apprehension.

A section of the prune growers are jubilant at the prospect of good prices owing to the demand for their product in Europe. With the crops of eastern Europe practically eliminated and France with scarcely half a crop, their joy would seem justified.

Another group of prune growers advocate a more energetic development of the markets of the United States instead of leaving the demand dependent upon the European situation and trusting to the countries over there taking up the surplus.

Turlock has been the shipping point for nearly 400 cars of cantaloupes and watermelons in less than three weeks. It is estimated that the total shipments for the season from there will reach 1000 cars. One of the local papers makes it 2000 cars.

To create the demand for prunes which will meet the increasing production, Santa Clara Valley growers are said to be considering the launching of an enormous advertising campaign conducted along the lines so successfully used by the manufacturers of the various breakfast foods.

Mr. L. B. Gladden of Healdsburg writes that the report of heavy damage to Jefferson plums by brown rot in Sonoma county was exaggerated and that out of a lot of several tons he sold to a cannery he does not think 3 dozen were affected. He also reports an exceptionally heavy crop in the Russian River valley. It is in good condition.

If the fruit standardization act, in effect August 9th, is held up, and shipments go forward as of old, it is because a comma has been discovered which might apply the regulations to fruit sold within the State. This would result in the loss of a tremendous tonnage of good fruit with just enough defects to

(Continued on page 163.)

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CYLINDER OIL VS. HEAT.

"Consideration of the properties of cylinder oils, and analysis of the conditions under which they lubricate, lead us to the belief that a large majority of the complaints about cylinder oils can be accounted for as due to ignorance regarding the principles governing their use." So says Lieutenant G. S. Bryan of the Naval Engineering Experiment Station, Annapolis, Maryland. Continuing, his article in the Journal of the American Society of Naval Engineers for February states:

"The three essential requirements of a good motor cylinder oil are: (1) It must lubricate the piston efficiently at the temperatures encountered in the cylinder. (2) It must give a good seal to the piston and rings, keeping them tight and preventing leakage of the oil and condensed gasoline past them. (3) It must burn without forming carbon deposits in the cylinder when an excess of the oil gets into the combustion space.

"We have seen that with the water boiling in the jackets the temperature of the inner surface of the cylinder walls will be about 267 degrees F. The temperature of the layer of oil that is in immediate contact with the cylinder walls, which is the part that regulates the friction, cannot be much higher than this. I do not know of any motor oils that have a flash point lower than 325 degrees F. If the temperature of the cylinder walls gets up as high as this in a water-cooled motor there is something radically wrong, and the remedy is not to get another oil of higher flash point, but to locate the trouble and remove it.

"It is an old theory that was never founded on solid facts, that a high flash point is a necessity in a motor oil or the oil will burn up without giving any lubrication. The point was overlooked that, when we have a maximum temperature of the gases in the cylinder of 2,700 degrees F. and an average temperature of 950 degrees F., an oil with a flash point of 450 degrees F. will offer but little more resistance to burning than one would of 350 degrees F.

"Either oil will burn if kept for any length of time in contact with the hot gas; lubricating oil does not burn very easily or very fast, however, and the time given for it to burn in a motor is very short."

WATER-WHEEL IN SLOW STREAMS.

To the Editor: We are located along Putah Creek, which flows by Winters. Perhaps you know about the size of this stream in the summer time. Is there any way to use the current in the production of electricity, either by wheel or hydraulic ram? And what arrangements could be made about the winter floods? Is there any concern on the coast engaged in this kind of business? Most of these hydro-electric plants get the benefit of a considerable fall, but I was wondering if the force of the current couldn't be used.—G. W. M.

[Answered by J. W. Swaren of the Pelton Water-Wheel Co.]

At the point where Mr. Morse proposes to utilize Putah creek the fall is comparatively small, with very high floods during the winter season and comparatively little water in the summer-time. Evidently he has in mind the utilization of what is known as a current-wheel. These are employed in many places along the Sacramento River for lifting a small quantity of water above the bank level, but develop comparatively little power—not quite enough to make it worth while to install electrical equipment.

The power of falling water can be calculated from the following formula:

$$P = \frac{Q \times H \times 62.4}{33{,}000}$$

—where "P" is the horse-power; "Q" is the quantity of water in cubic feet per minute; and "H" the head or fall utilized in the water-wheel. In the curent-wheel the head utilized is only the velocity of the stream, and is but a few inches.

The best way to develop water power is to combine the flow of water

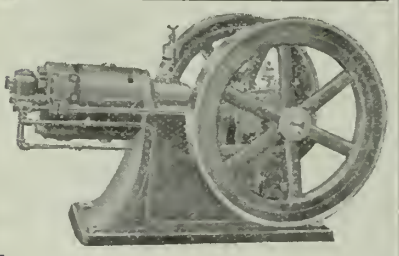
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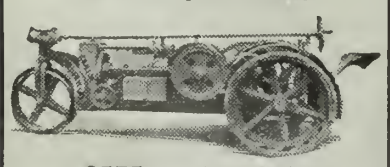


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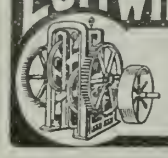
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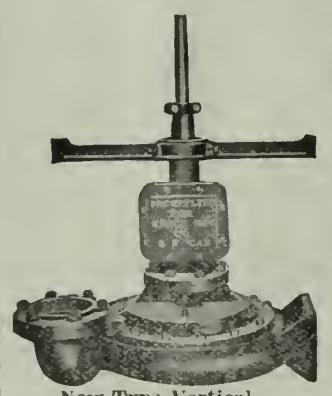
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in a closed pressure pipe, thus conducting the water under pressure to the water-wheel, which may be either of the Pelton or the Tangential type, or the Turbine type. If Mr. Morse can build a dam so as to divert the flow of water he might be able to utilize a low head turbine if he could get a fall of 8 or 10 feet. This is rather an expensive method of developing power, and the preferable method is to divert his water, carry it in a ditch or flume about the brow of a hill to a point where a fall of 40 feet or more is available, and the pressure pipe will not be more than 8 to 12 times the head.

Under these conditions a small hydraulic electric plant can be developed with comparatively low expense. But the greater the head or fall available the less the cost will be, until the head becomes excessive, say 250 feet or more, thus requiring special consfruction.

WHO HAS PUT A CORE IN A DITCH BANK?

To the Editor: The Questions and Answers in your paper are to me the most interesting part of it.

We are bothered with the water washing or breaking through the banks of our irrigation ditch. We have a ditch about five miles long. The people that use it had to build it, take care of it, and keep it up. It will carry about a thousand inches. The soil is sandy, but the ditch gives a good deal of bother with washouts. It seems to be caused by rats or something of the kind. Often it is a washout, and we cannot tell the cause, but I suppose it is caused by lizzards, horn toads, or a rat which I call a Kangaroo rat.

To cement the ditch is too costly. I was thinking we could make a ditch or slot, or whatever it might be called, about two inches wide and as deep as the bottom of the ditch—do this on both sides in the center of the bank, and go down so as to be about as deep as the bottom of the ditch (which would be from 4 to 6 feet), and fill this with cement and sand; put in cement enough so it would be hard for the rats, squirrels or anything else to dig through, or so if they dug from either side they could not go more than half way through.

Can any one give us any idea how this could be dug? It might cave in some, but I don't think it would be much, as we could fill the slot with the cement as fast as it was dug. Some of these places would be 30 rods long, some 10, and so on. Can the editor or some reader give any pointers on this or any other way? I have been looking after the head end of this ditch, or about two miles of it, and it is enough to make a man crazy to do this and do his farm work.—E. L. Winton.

[The insertion of such a core is theoretically possible, and there is no doubt that it would end rodent troubles; but to get it in place would be expensive and difficult. We never saw such a core, nor do we find record of one. The question is up to readers for answer. We can guess that to cut in such a narrow slot to such a depth would be found impracticable, and that making the trench wider would save as much in labor as it would cost in more concrete to fill it. We can guess also that it would be cheaper to cement the ditch banks than to core them. The subject is open to discussion.—Editors.]

TRACTOR DIGS DITCH.

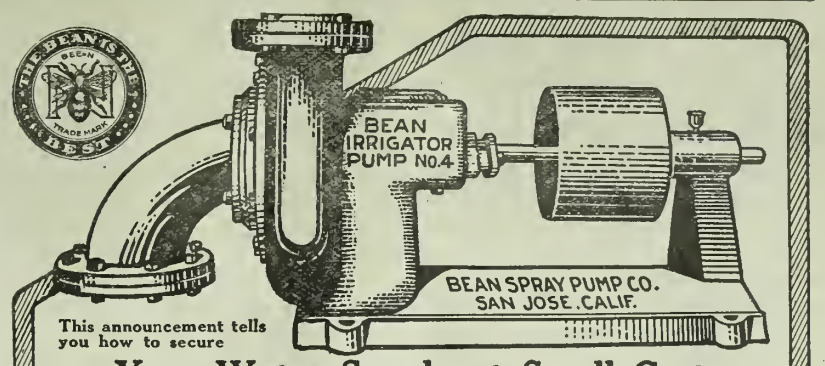
An International tractor running plows and a road grader, is digging a long irrigation ditch in the low-lying flat lands of Yolo county, for A. W. Morris and Sons. The tractor straddles the levee it throws up. It is much needed now because the late spring prevented damming the creek until the alfalfa needed the water.

LOOK!

On two adjoining ranches under identical conditions the same amount of water was pumped. One owner used electric power; the other used a **COMMERCIAL GAS ENGINE.** Electric power cost the one $1800 a year. The other bought $400 worth of distillate, and at the end of the year had $160 worth of distillate unused, **making** a total power cost of only $240, an actual instance of saving money that should **make you** write for further particulars and Catalog 18-R. Do it now!

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At last—a high-grade, efficient, dependable centrifugal pump at a low price. The Bean Irrigator introduces a new standard of pump values. Though the price is as low as the lowest—the pump is "Bean quality" through and through. If you're interested in irrigation you should learn about

Bean Centrifugal Pumps

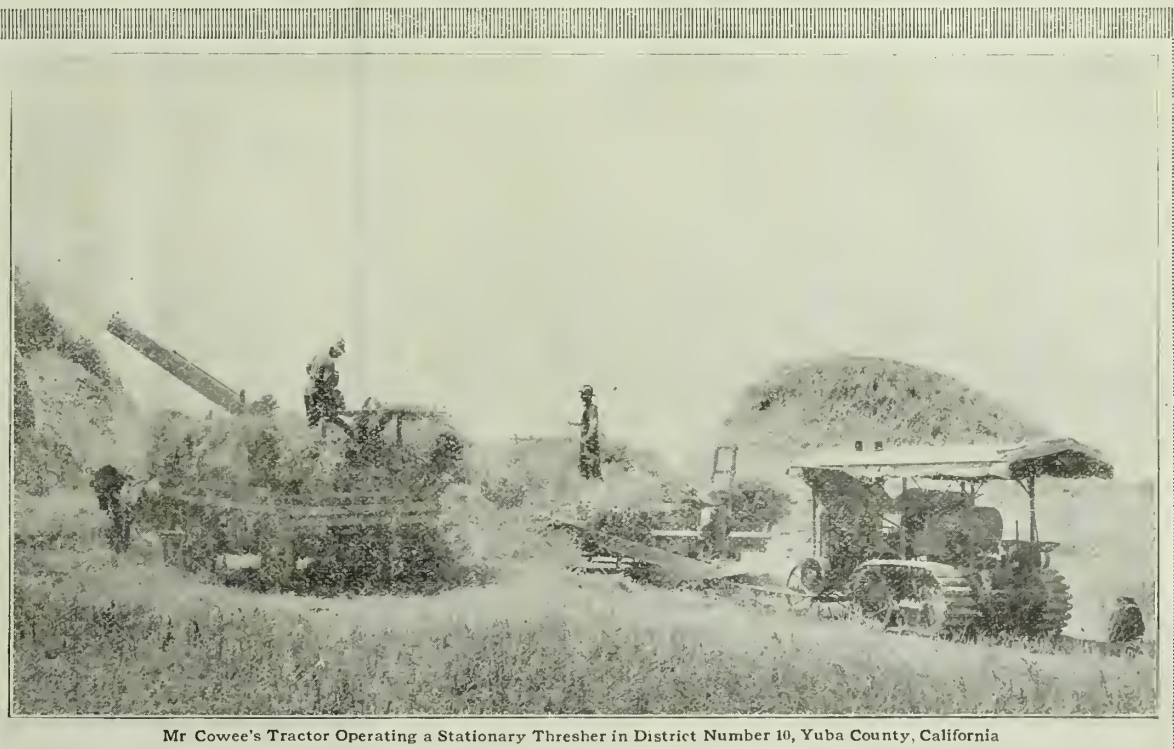
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Department A

Gentlemen:
Kindly send me a copy of your booklet "The Yuba Ball Tread Tractor."

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CHECK MAIN CROP RAISED

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Farm Poultry for Profit.

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

SUMMER CARE OF THE YOUNG STOCK.

This is August, therefore all stock hatched in the spring months should be well along, while those hatched in late May and June have not attained quite the size. Now unless the older ones are kept by themselves, it is pretty certain that the late hatched ones never will catch up.

Separate the Sizes.—Over-crowding is responsible for many things, but when the over-crowding is done by mixed sizes it is more disastrous than ever. It seems to be a law of nature that the strong must prey on the weak, and in the case of running mixed sizes and ages of poultry together it does work beautifully, for the small ones appear to shrivel up and get smaller while the big fat ones get fatter and bigger. During the past week I have answered five letters from people with troubles among their poultry and turkeys, that if traced up, every case found its origin in overcrowding.

The reason for most of these cases is the care-taker getting tired of the job, or thinking that because the stock had reached a certain age or size they could take care of themselves. They feed and water regularly and think that is all that is necessary. But it is not all by any means. If the stock are running loose it is necessary to look at them after they have gone to roost to see if there are too many in one house. I have seen times when chicks would all pile in one house and leave the rest empty.

Another thing to remember is that all the time they should be growing and require more space, so if they are yarded one needs be watching for the crowding just the same.

Give them all the room you can both day and night and the chicks or turks will reward you with growing fast and keeping so healthy that it will not cost you a cent for anything except food. And by the way, that cost is enough, these days, but when we add to it a drug bill every little while, not counting the dead chickens, it comes too costly to be ignored.

And when we consider that it can be avoided by exercising a little extra care and watchfulness it really is time to think a little and then act.

Dangers in Bunching.—I am often told that the chickens appear to sweat. Now this is a mistake; the wet condition they are in when they leave a box or house where they have been crowded, is due to the condensation from the bunch. When they crawl out in that condition, on a cold, raw morning it is no wonder that they get cold and roup; they simply can't help it, especially if they must hang around waiting for their breakfast. So that the very best advice anyone can give is, "to see that your flock have room, not only that but see that they utilize the room you provide." When chickens have started in to bunch up at night instead of spreading themselves out over more floor space, or taking to the perches, it is quite a little task to get them cured of the habit. The best way I know is to make up all corners, either with boarding up or nailing wire across, then spread a good thick layer of straw or other litter over the floor and put the perches so low that they will not be comfortable under them. The litter will prevent them from bunching up and eventually they will take to the perches.

Spacing on Perches.—All the small breeds are quite willing to perch, if given the opportunity, before they form the habit of bunching up; that is why I advocate going over them at night with the hand, after they have gone to bed for the night. If you are gentle with them and they know your voice this never alarms them and you can often spread them out over more space without raising a flutter. If you can't do it quietly, why it is better left undone, for a frightened chick is worse than a crowded chick, and neither are of much account, except to eat.

Do Not Excite the Hens.—There is a great deal of difference in the way one goes among chickens. I always talk to mine and when out of range if they hear my voice they always run to me, never away from me, unless a stranger is present, and I do not encourage strangers among my birds.

Some fanciers advertise "visitors always welcome," but I never have been able to feel so charitably inclined as to spend my time and annoy my poultry showing curiosity seekers around. One time a lady called to look at them and she had on a red sweater. I told her that I was afraid she would scare them with that red garment, but she did not take the hint so I took her to the first yard and the hens all ducked as if they had seen a wild man from Borneo, so I just excused myself at once by telling her that the hens were not used to strangers and it would make infertile eggs to have them scared so. And as a test I kept the eggs from that yard separate for several days, then incubated them and they were over 60 per cent infertile during that time. Since then I have been very chary of visitors, though chickens will get used to other animals and dogs and not mind them at all.

Guard Against Vermin and Feed Properly.—The next thing to look out for this month is mites, don't ever let up on the mite question. Because you sprayed a house on such a date, don't think it will last indefinitely, keep your eye on it—it may be all right, but you want to be sure.

An investigation by the Department of Agriculture has revealed a practice on the part of certain dealers in California of purchasing smutty barley, treating it with lime, and after mixing it with clean barley free from smut selling the mixture as choice brewing barley. The lime conceals the smut so that it cannot be readily detected by the eye, and after the limed smutty barley is mixed with clean barley, grain inspectors cannot detect the smut. The Department announces that this practice of liming smutty barley constitutes an adulteration under the Food and Drugs Act.



Now is the Time to Feed
Coulson's Egg Food

to your pullets as well as your hens, commencing at the age of three months.

Write for free book "Chickens from shell to market.

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Petaluma, Cal.

Notice to Cadillac Owners Who Will Visit the Exposition

Friday, August 20th, has been designated by the Panama-Pacific Exposition officials as Cadillac Day.

In honor of this event we will hold a tour from all sections of the State to San Francisco for Cadillac owners.

The party will leave Los Angeles August 17 and arrive in San Francisco on the morning of the 20th, in time to enter the Exposition grounds with the other Cadillac owners who will arrive from Northern points.

Don Lee representatives will accompany the tour, leading with a pilot car and following with an emergency car for assisting tourists, if needed.

Cadillac owners wishing to join the tour, please write Tour Committee, Don Lee, Los Angeles, Cal., Fresno, Sacramento, Pasadena, Oakland, or San Francisco.

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GENERAL OFFICES AND WORKS: OAKLAND, CALIFORNIA.
We are the largest manufacturers of pumping machinery on the Pacific Coast.

How to Make Broody Hens Lay Promptly

[Written for Pacific Rural Press by Geo. H. Croley, President Federated Poultry Ass'n of California]

In co-operation with five thousand actual poultry keepers of that State, the Missouri State Poultry Department, at its experiment station near Mountain Grove, is doing work that is of great benefit to the whole country. An instructive report has recently been issued regarding the cause and effect of broodiness of hens. It contains more practical information than any similar statement we have seen; and because we, in this State, are breeding more of the heavy varieties each year, the subject is of particular interest to us. However, this report being based on observations made at the one point in Missouri—and the climate of the whole state is very much alike—it cannot be expected that the same exact results would occur in California; but much benefit may be gained from a careful study of the contents of this report. What a pity the State of California has no such institution co-operating with the poultry keepers of the State, who are eager to solve some of the peculiar problems that confront them in various parts of this State with its multitude of climatic variations.

The report states in part: "There is an idea generally prevalent that when a hen begins to lay she has a certain number of eggs to lay, after which she goes broody. This idea has been proven incorrect as the production of eggs has been proven to be an endless chain which continues according to the ability given the hen by naturc, unless it is interrupted or broken by broodiness or some outside influence such as change in weather, location, etc.

"From the investigations we have made so far, we are convinced that broodiness is a condition of the brain and not of the body, for at the time the hen goes broody she is in a laying condition, having the different parts of the egg partly developed; but because of staying on the nest, lack of exercise, loss of appetite, and lack of nourishment, the hen takes the egg material back into her own system and uses it as nourishment just as hens do when a sudden change in weather stops them from laying."

The above is full of good educational matter, but we doubt if broodiness is a condition originating in the brain. We are inclined to this belief—or rather lack of belief—because of the great variation of the brooding instinct displayed by hens in different parts of California. Hens are not inclined to set as often in sections where the variation of temperature each 24 hours is great—say 35 degrees or more—as in locations having a very even temperature during the day and night, unless those in the varying climate are fed a ration very rich in carbohydrates and fats—and neither will they lay as well unless so fed; this applies both in summer and winter if the daily variation of temperature continues through the year. Consequently we have been inclined to think that broodiness is due to some peculiar physical condition (possibly directly affecting the brain), brought about by the amount of oily food consumed — particularly vegetable fats—in proportion to the protein and carbohydrates. Supposing that we are correct thus far, what develops the disposition to set—a sudden reduction in the amount of fats provided in the feed or a failure to vary it to match the variation of maximum and minimum temperature?



Illustration showing effect of continued broodiness on the primary egg-producing organ—the ovary—of a hen. From left to right it shows the condition as follows: At the end of twenty-four hours. At the end of ten days. At the end of three weeks. This demonstrates the importance of immediately breaking the hen of broodiness before the ovary begins to shrink and the partially formed eggs are transferred into other channels of the system and absorbed as nourishment.

The report further states: "In order to give an idea of the relation of egg production to broodiness, the following table is given. This table is the record made by 1040 hens in the National Contest here at this Station in 1913-1914:

NO. OF EGGS LAID BY	NO. OF TIMES BROODY.								
	0	1	2	3	4	5	6	7	8
Wyandottes	147	139	165	159	155	171	173	175	152
Orpingtons	127	133	134	135	170	146	160	163	142
Plymouth Rocks	158	155	164	179	149	162	143	163	
Leghorns	154	147	125	156	215	163	165	162	
Rhode Island Reds	153	177	163	156	153	141	144		
Langshans	121	159	100	164	167	150	139		
Anconas	155	148	146	163					
Minorcas	138	176	143	138					
Campines	135								
Averages	143	154	142	156	168	155	154	165	147

"By studying the table it would indicate that the best hens lay 168 eggs and go broody four times per year.

"The principal point to be noticed here is that it is not a safe rule to select the non-setters as the best layers."

Another table too long for publication shows that all hens that laid less than 100 eggs, averaged going broody one and three-quarters times each; those laying between 100 and 200 eggs, averaged going broody two and one-half times each; and all laying over 200 eggs, averaged going broody twice each.

This corresponds very nearly with the writer's experience in the San Francisco Bay district with Plymouth Rocks and Buff Orpingtons; the hens that were broody from two to three times were the best layers according to the Hogan method of judging; and, when records were kept, in nearly every case it was demonstrated that they produced the largest number of eggs.

The report further states: "The plan followed here at the Experiment Station is to place the hen in the brood coop on the day after she remains on the nest and does not lay. She is kept in the coop four days and then released. During the time she is left in the coop, she is given all the feed and water she wants. About 4000 hens are treated in this way each summer at this place. The records show that hens broken in this way begin laying again as follows: The time from the laying of the last egg till the hen began laying again was 10 days in March, 8 days in April, 10 days in May, and 12 days in June. There were more broody hens in June than in April, but for practical purposes we might say the average is 10 days."

It is demonstrated that prompt action is necessary to break up the broody hen if it is desirable to have her in laying condition in a short time. After 24 hours on the nest, a very great change takes place in her system, which requires many days to remedy. We might also add that in California an almost exclusive diet of yellow corn, or other grains containing much oil, fed for three or four days, greatly assists in quickly bringing the broody hen into her laying condition.

The Pacific Rice Growers' Association has been duly organized at Biggs, Butte county, and officers elected. The board adopted articles of incorporation and outlined its future policy. The association will work hand in hand with the Southern Rice Growers' Association as a protection to the rice growers of the west.

Poultry Breeder's Directory

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

WE ARE BOOKING ORDERS for Fall and Spring hatching now. White and Brown Leghorns; Barred and White Rocks; Black Minoreas, Rhode Island Reds; Buff Orpingtons and Anconas. No deposit required with order until 30 days previous to delivery of chicks. Large orders a specialty. Santa Clara Valley Hatchery, R. 6, San Jose, Cal.

EXPERIENCED POULTRY MAN wants position as working manager commercial plant, any size. American. Married. Steady, sober, all-round mechanic. References, Box 523, Pittsburg, Cal.

WHITE PLUMAGE POULTRY FARM and Hatchery. Sells Fall and Winter chicks. White Leghorns, Barred Rocks and Rhode Islands Reds. Circular free. H. A. Schlotthauer, Exeter, Cal.

EMPIRE HATCHERY has first-class White Leghorn pullets, one to five months old at from $3 to $7 per dozen. Beegle & Cullen, Empire, Cal.

BARRED PLYMOUTH ROCKS—"The kind that Win and Lay." Choice stock for sale. Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

CROLEY'S EVERLAY EGG MASH AND CROLEY'S SCRATCH FEED form a perfect balanced ration. Ask your dealer for them.

TRAPNESTED LEGHORNS—White and Buff Stock Eggs, chickens. Arthur R. Schroeder, Box 179E, Mountain View, Cal.

R. I. RED PULLETS, ready to lay, $12. Others $9, $6. White Muscovy ducks, March hatch. Mrs. Oaks, Livermore.

ORPINGTONS, BUFF AND WHITE, Black Minoreas and Carneux pigeons. Mrs. Susan Swaysgood, Pomona, Cal.

HARES AND RABBITS.

BOSWORTH'S Imperial Red New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville, Cal.

BELGIAN HARES—Young stock for sale. Hurd Bros. St. Helena, Cal.

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HART'S BRONZE TURKEYS—Limited number of last season's breeders for sale at reduced prices. Albert M. Hart, Clements, Cal. (Successor to Ed Hart.)

CHICKENS, DUCKS, GEESE, GUINEAS, PEA FOWL Address Wm. A. French, 545 W. Park St., Stockton, Cal

PIGEONS.

WHILE THEY LAST for $3 per dozen. Plymouth Rock Homer Pigeons. Very fine. Geo. M. Bosworth, Geyserville, Cal.

Classified Advertisements.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

WANTED.

WANTED—About seventy-five young men and women to enter the WESTERN NORMAL on August 30th, to prepare for teaching. Western Normal graduates secure and hold good positions. We assist graduates to secure good positions and promotion. We save you time and money. For information address, WESTERN NORMAL, J. R. Humphreys, Principal, Stockton, Cal., Box 704.

WANTED POSITION as ranch foreman by a rustler. Ten years' experience. Thoroughly reliable and competent. Best of references. Have had several courses in State Agricultural College. Also, results count—I can get them. Have wife and two children. H. C. Kinsman, 4019 Albatross St., San Diego, Cal.

WANTED, SHEEP SUPERINTENDENT, thoroughly experienced, to manage several thousand sheep in California. Must speak French or Spanish with some fluency. State age, experience size of family, if married, and salary heretofore commanded. Box 69, Pacific Rural Press.

WANTED TO LEASE with option of purchase, 160 to 320 acres good Sacramento Valley or foothill land. Good buildings, some good alfalfa, remainder grain, pasture. Full particulars first letter. Box 160, Rural Press.

SUPERINTENDENT—Experienced in handling and developing large tracts under irrigation desires location on percentage or salary. M. W. Russell, 1946 9th Ave., West Seattle, Wash.

POSITION WANTED as ranch foreman, young, single. Lifelong experience live-stock, field crops, fruit, irrigation, etc. Best references. Can handle men. Would handle place on shares. Box 200, Pacific Rural Press.

SITUATION WANTED—Young married Swiss dairyman wants position as milker. John Hefty, Afton, Glenn Co., Cal.

WANTED—Dried fruits, nuts, honey, beeswax, beans, etc. J. E. Lawrence, 326 Clay St., San Francisco.

MISCELLANEOUS.

COMMERCE AUTO TRUCKS—Brand new. Regular price, $1075 f. o. b. San Francisco, $950 if you buy it now. Box 54, Pacific Rural Press.

USE BROOMS MADE BY THE BLIND—All qualities guaranteed. Prices from 25c to 60c. Send for our price list. Help our blind workers to be self-supporting San Francisco Association for the Blind, 1526 California St., San Francisco, Cal.

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SHETLANDS—Specially a choice three years' gelding. Some weanlings and a fine, spirited driving mare. Yocum & Sons, Bellota, Cal.

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LAND FOR SALE.

FOR SALE—23½ acres, five miles from Santa Cruz, mile from school and postoffice. Fourteen acres fruit, mostly apples, balance corn and grain. Six-roomed house, all modern conveniences. Outbuildings, chicken house accommodation 500 chickens. Two pumps, motor, horse, buggy, all farming tools. Mrs. J. J. Kenny, Soquel, Cal.

A BARGAIN—Fourteen-acre ranch seven miles from Watsonville on Santa Cruz road. Five-roomed house partly furnished, barn and outbuildings. Six acres apples, rest in corn and beans. Some timber. Team young horses, wagon, other implements. Fifty chickens. No irrigation required. L. S. Millican, Aptos, Cal.

CALIFORNIA LAND—Money-making little farms. High-class, low-priced in all counties. First mortgage loan on farms bearing 7 to 9 per cent. Call or write the oldest land office in California. C. M. Wooster Co., 303 Phelan Bldg., S. F. Catalog free.

FREE—TRUE BLUE 1915 BOOKLET—Tells the "How," "Why" and "Where" of overlooked State and Government land bargains near you. Write California State Land Information Bureau, 1511 K St., Sacramento, Cal.

100 A. BOTTOM LAND in Rogue River Valley, Oregon, ½ mile from railroad station Tolo. 30 A. pears 3 and 4 years old. 50 A. alfalfa. Good house, barn, stock, improvements. F. B. Noyes, 3023 Summit St., Oakland, Cal.

FOR SALE—Beautiful country house near Capitola. Two and a half acres chiefly in cherries. Seven-roomed house and outbuildings. Address Owner, P. J. Archibald, Soquel, Cal.

WANTED GOOD FARM, or unimproved land from owner. H. L. Downing, 145 Palace Bldg., Minneapolis, Minn.

STOCK RANCHES for sale in Eastern Oregon. Principal only need apply. 2509 Prince St., Berkeley, Cal.

TREES AND NURSERY STOCK.

BURBANK'S SPINELESS CACTUS—Hardiest varieties Melrose and Special. Strong mature slabs, $8.50 per 100; $50 per 1000. Labranza Ranch, Athlone, Merced Co., Cal.

RECLEANED ALFALFA SEED, free from Dodder and Johnson Grass; high germination; excellent color; 20c per pound F. O. B. your railroad station. Send for sample. E. F. Sanguinetti, Yuma, Arizona

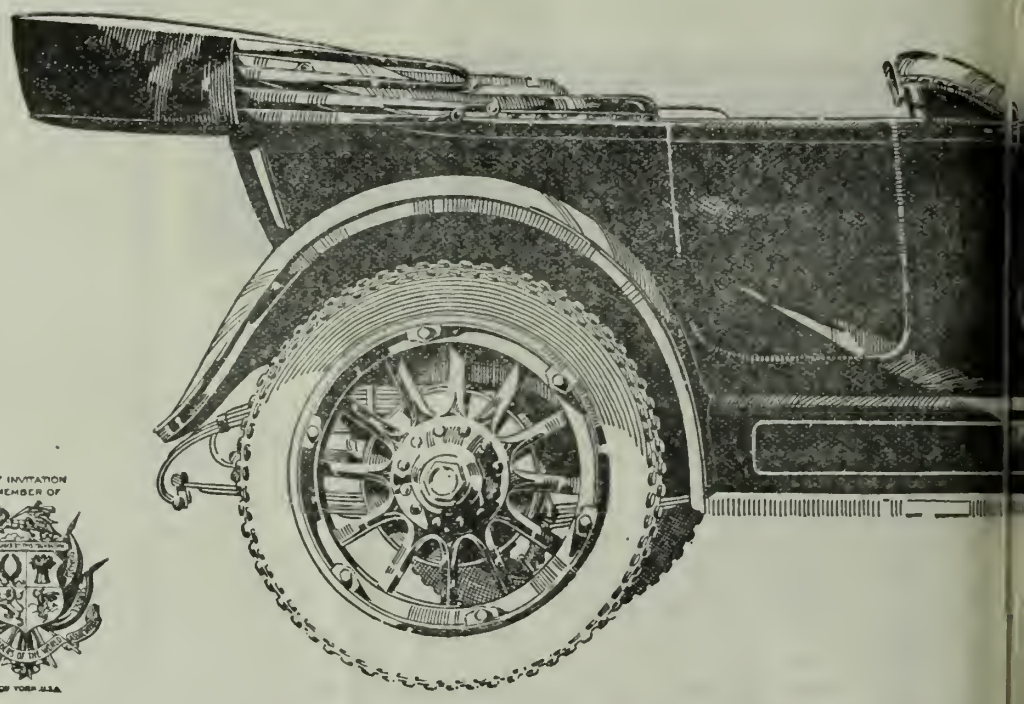
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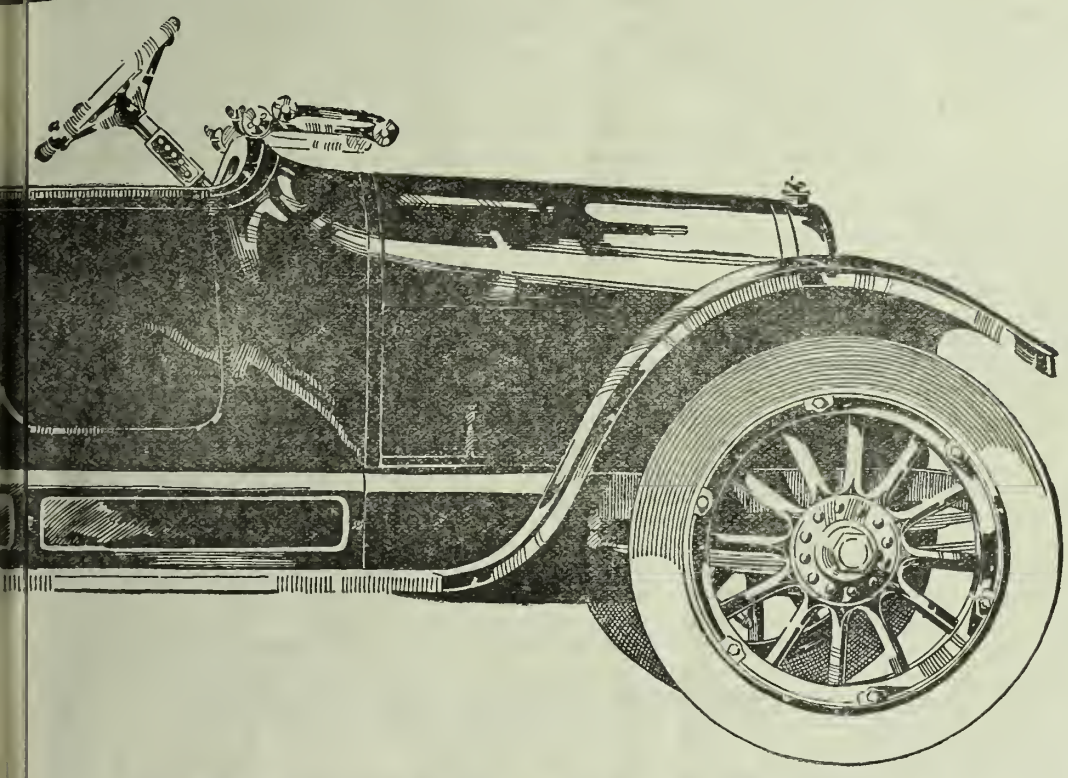
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IT IS not advisable to jump suddenly into any phase of the stock business. Profits are rarely large enough to absorb unusual costs for equipment or cover losses due to inexperience. Only the pastmaster in the stock business can hope to speculate successfully in this way. The average farmer may safely initiate a gradual change from grain-growing to live stock farming, or enlarge an already established small stock business. A little flock of ewes, or a half-dozen sows and their pigs, an extra cow or two, or a pair of mares to replace a span of mules—none of these can break a man's fortune or courage if they go wrong, and if rightly managed any of them can add materially to the farm income.

Stockraising is something to enter into for a decade or a lifetime, not for a year. Bankers' assertions, farm management surveys, crop yields at the end of a generation, all reflect the greater income of the livestock farmer. So true is this that the richest states and counties are live stock regions. To step in at once and attempt to share this wealth is risky. To stock up gradually and build equipment as returns justify expansion is the safe way to work the transformation.—Breeders' Gazette.

Placing the Blame for Cheap Butter.

[Written for Pacific Rural Press.]

In a previous article the statement was made that "no great industry of a State can grow with safety faster than its markets." It was also pointed out that the dairy industry of California has now reached a stage of development that demands closer attention to outside markets and their requirements and that the development of Pacific and Atlantic Coast markets means the expansion of California's dairy industry to unlimited extent if we will just improve our quality.

Peculiar as it may at first seem, there is but one faction in the production, manufacturing, or distributing of dairy products who appreciates the situation. That faction is the large distributor who has been confronted with the problem of marketing small surpluses in the past, or the manufacturers operating on a large enough scale to warrant their own distributing system.

When there was no surplus butter, it was comparatively easy to sell butter, even though it was second quality, for it was "Hopkins' Choice" with the wholesaler or retailer. He could take what the local market offered or leave it alone. Naturally he has taken what he could get, and kept still. To put it another way, the California butter markets have accepted a lot of inferior butter at a reasonable and many times a high figure because California controlled her own market. In at least one case this control has even gone so far as to force the entire butter production of one of our largest dairy counties upon retailers and consumers as extras when it was, as a matter of fact, largely a second quality product.

It was argued, and perhaps justly from the standpoint of that day, that the California consumer was willing to stand for such a condition of affairs and that the dairy industry was benefited to the tune of thousands of dollars annually. The theory of the thing was and still is among a vast majority that the consumer hasn't been hurt, and the producer through higher prices has been allowed to further develop along production lines.

While the average manufacturer may have known of this condition in a roundabout way, he has not been in a position to know or particularly care where the thing led to, for his has not been a marketing problem on a broad scale nearly so much as it has been a manufacturing problem. As long as his butter over and above what he sold to his local trade could find an outlet through the distributor on the large market, he did not deem it his business to delve into the distributors' problem.

As with the creamery man, so with the dairyman. He has been first of all interested in production with its confusing problems. His chief interest in the creamery business has been in his cream check. He has not interested himself in the manufacturing or distributing problem because he recognized the specialization that both branches involved. And so we find that the distributor is the creamery's keeper and the creamery the dairyman's keeper, but above all that the market is the keeper of the entire dairy industry.

As has been shown, the industry was all right as long as we could confine our production to our own markets and stave off competition from distant points.

From the distributors, who we have shown are the only ones at present in a position to know the actual marketing conditions, we learn that we are several million pounds of butter over our consumption, also that New Zealand and Australia will doubtless make a play for a part of our future trade as they did after the tariff was reduced.

When asked how we are to broaden our market and at the same time exclude foreign competition from our own markets, the answer of the distributor invariably centers on one factor, "a better and more uniform product." Past experience, so we are told, proves beyond a single doubt that this is the pivot around which the future market hinges.

For example, we are informed by one of the largest distributors in the State that the British Columbia market offers possibilities for California butter; in fact, was taking an ever-increasing amount of it till New Zealand entered. Since then California dealers have been forced out. Why? Because the foreign product was of uniform high quality, whereas the California product was not.

During the present year about a million pounds of butter were shipped to the Chicago and New York markets. This butter was the make of various creameries in the State and varied greatly in flavor, color, salt, and style of package. Naturally enough, when the Chicago or New York buyers asked for a certain grade in large quantities, we could not supply them due to the lack of uniformity. This meant a severe slashing of prices, with the result that the million pounds sold at no profit, but rather an actual loss in some instances. The only benefit accruing to our butter industry was the relieving of our markets that much, which allowed it to hold up better. In other words, we sacrificed on a million pounds in order to realize a better price on the remaining supply. This condition is being somewhat improved by the enlarging of daily production at a number of our large creameries which permits the making up of carload shipments of one brand, thus insuring uniformity.

The dealers point out that this condition is avoidable; that the British Columbia market can and will be won back, and the eastern market profitably shared as soon as the producer and manufacturer take steps to co-operate with the distributor in supplying said distributor with a high and unform grade of butter. He predicts that our market outlook is as appealing as our production outlook, and that the producer, manufacturer, and distributor will work together toward a bigger and better dairy industry which is certain to come with advancing years just as soon as the condition and its solution are thoroughly understood by all concerned.

INCREASED PORK PRODUCTION.

W. S. Guilford of Willows, Glenn county, says, "An increase in the pork production of California must come largely from the intensely cultivated, diversified farms that are being developed all over California.

"On farms of this type a very fine quality of pork can be produced. The breeding stock can be given the best of care and attention, and the pigs can be cared for and fed in such a way as to insure continuous and rapid growth. A wide range of good feeds is available, including alfalfa, insuring variety in the ration—and some of these will be by-products from other farm operations—such as skim milk, barley, stubble, waste fruits, cull vegetables, table scraps, etc.

"Plenty of grain can be grown to finish the hogs as they should be and make a carcass that is a source of satisfaction not only to the butcher or packer but to the consumer."

The increase in cattle shipments over the Western Pacific railway caused the company to inaugurate, on August 1st, a special cattle service. This train leaves Doyle on the Nevada line at noon and lands the cattle in "Butcher Town," San Francisco, by 11 a. m. next day. This includes picking up intermediate shipments on the way down.

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One man stump pullers cost less, weigh less, more power, 2 variable speeds, ten year service guarantee with every machine. CATALOG FREE

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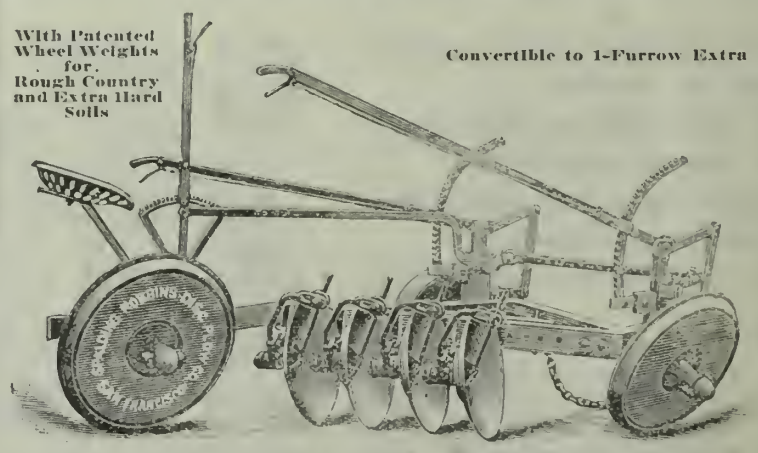
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MADE IN 2, 3, 4, 5, 6 and 8 FURROW SIZES.

SOIL NEVER GETS TOO HARD AND DRY FOR THIS PLOW.

Plow your land dry. Do not wait for rain. It may not come till too late.

MR. FARMER, DO YOU KNOW that over 1,000,000 California acres were not cropped last season, largely because weather conditions interfered with plowing. Were you among the losers? Don't be caught again. With "The Ground Hog" no matter how hard and dry your soil, you can plow this fall before the rain sets in—insuring big crops. European demand insures you big prices.

BUY A GROUND HOG NOW. It will pay for itself this Season and give you a handsome profit besides.

We manufacture both Horse and Tractor plows. Our plows for small tractors work where other plows have been strained or pull to pieces.

Write for prices and full particulars.

Spalding-Robbins Disc Plow Co.

461 MARKET STREET, SAN FRANCISCO.

Milk House and Equipment for New Law.

To the Editor: I expect to put up a dairy house soon; will use space under my tank which will give space of 15x15. What would be the best material for walls to make a strictly sanitary room? Would it be objectionable to use the same room for bottle washing, handling and bottling milk? Of course, only one would be done at a time. What size boiler (h.p.) would be required to operate a single bottle washer and sterilizer which sterilizes 24 at one time—not over 250 bottles washed at a time? What h. p. boiler would be required for a pasteurizer of 40 or 50 gallons capacity?

Also, in a brief way in plainest language, can you state in your valuable paper exactly what a dairy man will have to do to meet fully the requirements of the pure milk bill to take effect October 1, 1916?—Constant Reader, San Luis Obispo.

[A concrete plaster wall would very likely be the most satisfactory one for your purposes. The following specifications give a detailed plan for the construction of such a wall:

First put in extra studding or uprights and ceiling joists so that none of them will be more than 16 inches in centers.

Use wood laths—1¼ inch Oregon pine, free from bark and other defects. Space the laths ⅜ in. apart and nail them well to every stud and joist. Break the joints every eighth lath.

After the laths are in place and before the plastering is to be done, the laths must be thoroughly wetted. The laths must not be dripping wet when the mortar is to be applied, but must be so damp that they will not absorb any of the moisture from the cement mortar. As dry wood quickly absorbs the moisture which should be held in the mortar, the mortar is weakened and sometimes ruined by failure to wet the laths before the mortar is applied.

It is more satisfactory to have an experienced plasterer do this kind of work; however, a little practice on a sample lath panel set in an upright position will enable one to do a fairly good job.

The first or scratch coat shall be ⅜ inch thick and shall be in the following proportions:

4½ parts Portland cement;
½ parts prepared hydrated lime.
10 parts clean coarse sand.

Thoroughly mix the cement, hydrated lime, sand and the hair or fibre while all the materials are dry and never mix the cement and lime with sand that is wet or moist.

When you are ready to begin to plaster, then wet as much of the mixture as you can apply, say, in thirty minutes. If you are not accustomed to work cement, you should not risk wet mixing too much of it in the beginning for the cement sets quickly and must be applied to the wall or ceiling before it sets.

By practicing first with the sample lath panel, you will find just how much water to add and yet have the mortar wet enough to work without dripping off the wall.

The first coat must be scratched or roughened up with the edge of a trowel so that the second coat can have a better hold. Do not trowel the first coat to a smooth finish.

The second coat will be ⅜ in. thick and will take the balance of the material heretofore mentioned; no fibre or hair will be used. The proportions will be the same as stated for the first coat. This coat will be so troweled that the surface will be smooth. If possible, finish the corners with roundings or coves, which are more easily cleaned than sharp corners.

The question of whether it would be objectionable to use the same room for bottle washing, handling, and bottling of milk is one which will have to be decided largely by present or future milk regulations in the city in which you deliver your milk. The State law at present does not prohibit such a practice; and if your city regulations there do not cover the subject, you are perfectly safe in including the entire operation in one room. Some of our cities have regulations that prohibit this and the question revolves around what your future regulations there will be.

A one and a half h. p. vertical boiler would be large enough to run your bottle washer and sterilizer, but it would be more economical in operation to have a two h. p. boiler of the same type. To furnish power for bottle washer, sterilizer, and pasteurizer, of 40 or 50 gallon capacity, you should have nothing less than a four h.p. vertical boiler.

A resume of the new milk and milk products law was printed last week. We might add for your benefit that the most serious question confronting the whole milk dairyman with small herds such as you have, is not so much the pasteurizing of milk as it is the proper cooling of milk after pasteurizing. To keep milk any length of time after it has been held at a temperature of 140 degrees in the pasteurizer, it should be immediately cooled to around 40 degrees F. This is best accomplished by a supply of brine or ice water through which the milk is run. In case you do not have the facilities for doing this, you can build a refrigerator in which the temperature is kept down by the use of ice, or pack your bottles after bottling with ice.

So far as we have been able to learn, the Attorney General has not given his opinion on the law, but it is generally thought that in view of the fact that it doesn't go into effect until October 1, 1916, steps will be taken to appeal at least those portions of it which on its face appear to be impracticable.—Editors.]

Over 600 head of beef cattle were shipped to various San Francisco firms of wholesale butchers from Alton, Humboldt county, last week. The opening of railway communication with the northern coast counties is having a very beneficent influence on the stock industries up there.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

DAIRY CATTLE.

REG. HOLSTEINS—We offer choice grandsons of King Segis, also grandsons of the world's record cow. Creamelle Vale; blood that increases the value of your herd. Write or call and see our herd. F. H. Stenzel, San Lorenzo, Cal.

SUNNYBROOK RANCH, WILLITS, CAL.—Breeders Registered Holstein stock. Young bulls for sale ready for service. Sired by De Kol Fobes Homestead 6th. Prices reasonable.

REGISTERED HOLSTEINS—Young bulls sired by King of Riverside and Lakeside Model Prince from A. R. O. dame. J. H. Harlan Co., Woodland.

FIVE REGISTERED HOLSTEIN cows and four heifers priced for quick sale. K. W. Abbott, Milpitas, Cal.

HOLSTEIN BULLS—Pure-bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

FOR SALE—60 Jersey heifers, $30 each. 55 Jersey cows and 4-unit Sharples milker and separator, $5000. Terms. C. B. Crawford, Buttonwillow, Cal.

FOR SALE—About 60 head of fine dairy heifers from 6 months to 2½ years old. Grade Jersey and Holstein. I. S. Smith, 226 Alameda Ave., San Jose, Cal.

FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

AYRSHIRES—For sale, fine young bulls from Imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

REG. GUERNSEY BULLS for sale. Grapewild Farm, Mayhews, Sacramento county, Cal. A. B. Humphrey, Prop., P. O. Box P.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class, thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

REGISTERED HOLSTEIN BULLS—Serviceable age. From finest strains. Panama Pacific Dairy, Sutter Creek, Cal.

JOHN LYNCH, breeder of Registered Shorthorns. Milk strain choice. Young stock for sale. Box 321, Petaluma, Cal.

REGISTERED JERSEY BULL CALF—Six months old—a fine animal. $40 if sold soon. O. J. Ames, Oakdale.

REG. JERSEYS—Herd established 1868. Young bulls from best cows. Rancho Dos Rios, R. 2, Modesto.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

REGISTERED GUERNSEYS—Both sexes for sale. Mrs. Charles G. Lathrop, Stanford University, Cal.

REGISTERED HOLSTEINS—A. W. MORRIS & SONS, Corp., Importers and Breeders, Woodland, Cal.

REGISTERED HOLSTEIN BULLS from A. R. O. dams. J. W. Benoit, R. 2, Modesto, Cal.

CREAM CUP HERD—Registered Holsteins. Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED JERSEY CATTLE—Young stock for sale. W. J. Hackett, Breeder, Ceres, Cal.

PELANDALE HERD of Reg. Holsteins. Young bulls for sale. J. A. Pelanda, Salida, Cal.

SUNNYSIDE HERD—Registered Holstein cattle. B. F. Guerin, R. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma.

A. R. O. REGISTERED HOLSTEIN BULLS for sale. Millbrae Dairy, Millbrae, Cal.

BREEDERS OF REGISTERED HOLSTEIN CATTLE—McAlister & Son, Chino, Cal.

BREEDER of Registered Holstein Cattle. Ernest Otto McClure, R. 2, Modesto, Cal.

LINWOOD FARM—Registered Holsteins and Imported Guernseys, Santa Cruz, Cal.

N. H. LOCKE CO., Lockeford, Cal.—Choice young Jersey bulls for sale.

PACKWOOD FARM HERD for Holsteins. W. F. Mitchell, Visalia, Cal.

HORSES AND MULES.

PURE-BRED Registered Percherons—A few choice young stallions two years old; also two, three and four-year-old fillies, majority in foal, for sale. Los Altos Stock Farm, Los Altos, Cal.

BEEF CATTLE.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Shorthorns. Villager and Avondale strain. Yearling bulls for sale.

HOPLAND STOCK FARM—Registered Short-horns. Prices on application. Hopland, Cal.

SIMON-NEWMAN CO., Breeders of registered Herefords. Newman, Cal.

TWENTY Shorthorn Bulls from Nebraska. G. A. Murphy, Perkins, Cal.

SWINE.

I HAVE ANOTHER CROP of seventy-five head of Big Type Poland China Boars, born in February, sired by Iowa Wonder, who is a son of A Wonder, the Greatest Poland China Boar, Living or Dead. Iowa Wonder is in the 1000 lbs. class. One of his sons from one of my good registered sows should make you money. I will sell the best first. On account of being overstocked will sell them at $20 each while they last, but they will not last long at this price, so act quick if you want an extra good boar for little money. Geo. A. Smith, Corcoran, Cal.

BILLIKEN HERD of pedigreed O. I. C. Swine; weaned pigs of both sexes ready for immediate shipment; pairs and trios mated, not akin. All from big type stock of extra heavy bone. Immunized against hog cholera, crated and registered free. Write for descriptive circular and price list. C. B. Cunningham, Mills, Sacramento County, California.

BLUE-RIBBON HERD DUROC-JERSEY HOGS—Bred Gilts a specialty. 15 bred now. 20 ready to breed. Sires and dams win all blue ribbons 1912, 1913, 1914 State fairs. 15 first, 13 seconds, 6 thirds, 7 fourths, 1 fifth. Will show 1915. For prices, write John P. Daggs, Modesto, Cal.

BERKSHIRES—Headed by Bandmaster 2nd, junior champion Iowa State Fair. My females were winners at Iowa, Wisconsin and Minnesota State Fairs. Farm at San Mateo. Address W. M. Caruthers, 218 Hearst Bldg., San Francisco.

BLATCHFORD'S PIG MEAL weans easily and safely; no trouble; no milk. Write for free folder, "The Safety Route from Pighood to Porkage." Coulson Co., Petaluma.

REGISTERED, PUREBRED BERKSHIRE PIGS—(Weanlings) both sexes. Reasonable prices. Write for full information. J. E. Hall, Sebastopol, Cal.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Duroc and Berkshire Swine. Weanlings for sale.

BARGAINS—Two fine Duroc-Jersey Boars for sale at half their value. "Jim" No. 4 from R. D. Beauty No. 122721. Also Chief No. 54 from Red Wonder 97295 One and two years old. Western Hog and Land Syndicate, 919 Hearst Bldg., San Francisco.

BARGAINS—Big type Duroc-Jersey sows at great bargain. Will farrow in September by thoroughbred boar. Cholera immune. Make 100 per cent by buying one or more of these sows now. Western Hog and Land Syndicate, Inc., 919 Hearst Bldg., San Francisco.

REG. BERKSHIRES—Fine 3 months old pigs, both sexes, by Panama Lee, Gold Medal Winner at 1914 State Fair. Also bred sows. C. E. Barrows, Los Molinos, Cal.

REGISTERED BERKSHIRE SWINE—All ages, for sale. Grapewild Farm, Mayhews, Sacramento, Cal. A. B. Humphrey, Prop., P. O. Box P.

TAMWORTH BOARS—Registered 2-12 months old, large and rangy. Weanlings both sexes $10 each. Fine healthy lot. L. J. Archer, R. F. D., Antioch, Cal.

25 POLAND CHINA SPRING BOARS—Jan., Feb., March farrow. Prices, registered and crated, $20, $15, $10. Edwd. A. Hall, Watsonville, Cal.

DEL DAYO FARM—(Old Haggin Bottom Ranch)—Breeders of Registered Berkshires, both sexes for sale, P. O. Box 1140, Sacramento, Cal.

PLAINFIELD STOCK FARM—Registered Berkshires and Durocs. Young stock for sale, both sexes. H. M. Bullard, Woodland, Cal.

REGISTERED BERKSHIRE SOWS and their weanlings. Quality, health and vigor. Boars, all ages. F. H. Wilson, Turlock, Cal.

GLENVIEW POLAND-CHINAS—Baby pigs from best families for sale. From $15 up. Chas. B. Hanna, R. 3, Riverside, Cal.

IMPERIAL STOCK FARM BERKSHIRES—Quality and price guaranteed to satisfy. R. J. Merrill & Son, Morgan Hill, Cal.

REGISTERED BERKSHIRES — Weanling hoar pigs. $10.00 each. A few older hoars. J. M. Bomberger, Modesto, Cal.

LINDEN STOCK FARM—Registered Berkshires, both sexes, all ages, best of breeding. Write for prices, Linden, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford.

REGISTERED O. I. C. BOAR—17 months old. Good stock. $35. Also two O. I. C. bred sows. H. Witts, Turlock.

REGISTERED DUROC-JERSEYS from Eastern sows. Six months gilts and hoars. S. S. Southworth, Napa, Cal.

BERKSHIRES—Pedigreed Boars ready for service. Also pedigreed weanlings. C. H. Thompson, Novato, Cal.

REGISTERED POLAND-CHINA HOGS—Cholera immune. W. D. Trewhitt, Hanford.

POLAND-CHINAS—Prize-winners. Money-makers. B. Bernstein, Hanford, Cal.

HOPLAND STOCK FARM — Registered Berksbires. Prices on application. Hopland, Cal.

POLAND-CHINAS—Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

POLAND-CHINAS — Prize-winners. Satisfaction or money back. Geo. V. Beckman, Lodi, Cal.

REGISTERED DUROC-JERSEY SWINE—Las Pederas Ranch, El Cajon, Cal. M. S. Allen, Manager.

REGISTERED POLAND-CHINAS — Young stock for sale. Hewitt & Hewitt, Hardwick, Cal.

DUROCS—Weanlings and a few choice bred gilts. H. E. Boudier & Son, Napa, Cal.

KNOB HILL STOCK FARM—Registered Poland-China swine. A. M. Henry, Farmington.

REGISTERED POLAND-CHINAS and Duroc Jerseys. T. H. Beckman, Lodi, Cal.

REGISTERED DUROC-JERSEYS from Eastern sows. S. S. Southworth, Napa, Cal.

ROADOAKS RANCH herd of registered Poland Chinas. W. J. Hanna, Gilroy.

REGISTERED BERKSHIRES—Young stock for sale. F. W. White, Elk Grove, Cal.

BERKSHIRE BOAR PIGS—Butte City Ranch, Butte City, Glenn Co., Cal.

CHAS. GOODMAN, Breeder of high-class Berkshire Swine, Williams, Cal.

POLAND CHINA HOGS—Registered. R. J. Miller, Llewellyn Ranch, Lathrop.

DUROCS—A few bred gilts, boars and gilts left. E. C. Curtis, Napa.

REGISTERED O. I. C. SWINE—C D CONWAY, Lakeport, Cal

POLAND-CHINA HOGS—C. A. Stowe, Stockton, Cal.

SHEEP.

FRANK MEACHAM, Petaluma, California.—Breeder Shropshire, Rambouillets, American Merinos, both sexes. Take electric car at Santa Rosa or Petaluma for Live Oak

SHROPSHIRE LAMB BUCKS—Yearlings and two-year-old rams for sale. J. R. Bloom, Dixon, Cal.

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers, Shropshires.

BULLARD CO.—Breeders and Importers of Rambouillets, Woodland, Cal.

MISCELLANEOUS.

ALFALFA SEED—If you are going to be in the market for Alfalfa Seed, get into communication with us at once. Will soon be harvesting the new crop. Booking orders now. Write or wire. V. A. Peterson Alfalfa Seed Co., Arbuckle, Calif.

BREEDER of Registered Holsteins and Poland China Swine. E. E. Freeman, R. 5, Modesto, Cal.

Veterinary Queries and Replies.

[Answered by Dr. H. R. Wintringham, Petaluma, Cal.]

CALF AND PIG TROUBLES.

To the Editor: Young calves from 6 to 8 months old appear to be in healthy condition, feeding on alfalfa, passing blood in their uriue. What is the cause and remedy?

Brood sows, running on alfalfa, in good condition, farrow with good litters, pigs in good shape. Sows are fed alfalfa pasture and milk (separated); the little pigs get uice and fat, then in about two weeks they become scabby, sores forming, and finally die. I have kept litters from mudholes.—H. A. G., Tolleson, Arizona.

[The calves are getting too much alfalfa. Let down on this and substitute millfeeds for a time.

The pigs have infectious dermatitis. Dip them every other day in a two-per-cent solution of Liquor Cresolis Compositus. Disinfect their quarters with the same strength solution.

INFLAMMATION OF KIDNEYS.

To the Editor: What is the matter with a pig that urinates almost constantly, usually small stream. At first uatural in appearance; uow, after five days, considerable quantities of blood, bright-red. The pig lies down on his belly most of the time. When standing, back is humped. Age about one year. Can anything be done? No others seem affected. Does not cry as if in pain, but lies very quiet.—P. R. A., Turlock.

[This is inflammation of the kidneys. The best remedy is to butcher the animal. You might try giving flaxseed tea twice daily in one piut doses, also one drachm potassium citrate twice daily.

UDDER TROUBLE.

To the Editor: I have a heifer that has been fresh about 2 months. She has been giving about 2 gallons per milking. Within three days she dropped down to about a quart per milking. One teat does not give any at all—only blood. She eats, drinks, chews her cud, and seems all right except a little stiff. Can I do anything for her?—D. W. N., Wheatland.

[Apply camphorated oil to the udder and rub in thoroughly twice a day. Give internally two drachm doses potassium iodide dissolved in water twice a day for two weeks.]

NON-BREEDING SOW.

To the Editor: My sow is four years old, and raised several nice litters. The last time she took the boar was January 28, 1915, but it did not bring her with pigs, and since that date she has never been in heat. She is fat, and seems to feel good.—J. P. T., Roseville.

[Give the sow the following: Fluid extract viburnum prunifolium in two-drachm doses twice a day.]

HORSE WITH STOMACH TROUBLE

To the Editor: We have a horse that every year about this time (aud sometimes in June) acts as if she had the colic, but it is not. Some people tell me it is "bots." As soon as it gets to be very warm weather she starts in. She will drop right down in her tracks and begin to roll, just as if she had colic. She will go in the creek and lie right in the water, which is about three feet deep, and stay right there for awhile. We can not do any work while she is in this state.——P. C. B., Sonoma.

[Put this horse on Fowler's solution of arsenic in one-half ounce doses three times a day for one month. Externally apply the following once every ten days for three applications: Powdered sulphur, 2 oz., oil tar, 2 oz.; oil cajuput, 2 oz.; neutral oil enough to make oue quart.]

RING WORM.

To the Editor: I have a cow which has been licking her nose more than usual. On examining, I find that she has little brown rings all over her nose resembling riug worms. The cow is in fine condition. I also have a sorrel horse which has sores all over his body, especially on the head. They are under the skiu, and rise up in lumps aud come off in scabs, bringing hair and skin with them. They average about an inch or more in diameter.—L. T. B., Angels.

[Both your cow and horse have ring worm. Paint the diseased spots every day with tincture of iodine as long as there is evidence of the trouble spreading.]

PROBABLY LOCKJAW.

To the Editor: My neighbor has two horses afflicted in the hind legs, which seem stiff and sore; next they seem weak in the couplin and stiff in the neck. Two days later both were down perfectly helpless; lay and lashed with their fore feet. They neither eat nor drink. Please give us treatment, and is it contagious?—G. H. C., Canby.

[The trouble is more than likely lock jaw, and the animals are very probably dead by this time. This is not a contagious disease.]

SOMETHING FOR YOUR GREAT-GRANDCHILDREN.

The United States Forest Service has just completed a study of the rate of growth of yellow pine upou cut-over lands upon the Tahoe, Stanislaus, Sierra and Sequoia National Forests. Figures obtained show that an excellent stand of timber will result in the best localities in the western Sierras in 50 to 60 years. This study indicates that the following yields will be derived from fully stocked stands:

47,500 board feet at 50 years of age.

61,400 board feet at 60 years of age.

70,000 board feet at 70 years of age.

The yield of cordwood from these same stands will be 92 cords per acre at 50 years, 112 cords at 60 years, and 123 cords per acre at 70 years. If the timber is utilized for mining or as telephone or power poles, large yields are indicated.

Quite a colony of Italian dairymen are settling in Glenn County.

A GUERNSEY BULL
is a sure way to increase your profits. Grade up your herd by using a pure bred Guernsey Bull and you will be surprised at Results.
Send for free literature.
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POLAND CHINAS
(Large Type)
YOUNG STOCK FOR SALE
(Both Sexes)
THE BROWNING STOCK FARM
W. H. Browning, Prop.
Woodland, California

"Increases the Milk Flow Strengthens & Improves the Physical Condition of the Cow"



That's what A. W. Morris & Sons (breeders of the new world's champion milk producer, Tilly Alcartra) say about Dried Beet Pulp.
Read this letter:—

Woodland, Cal., May 13, 1915.
"The Larrowe Milling Co.,
Gentlemen:—
Having fed Dried Beet Pulp for the past four years in the official testing of our herd of registered Holstein-Friesian cattle we feel that we are in position to judge of its value as a dairy feed. We can now say without hesitancy that it is one of the best and most economical dairy feeds in the market, and for the dairyman in the alfalfa districts it is invaluable as a supplement to alfalfa.
Dried Beet Pulp fed with alfalfa will not only increase milk production, but it will materially strengthen and improve the physical condition of the cow, which enables her to maintain this milk flow, produce better offspring, and prolongs her period of usefulness. In feeding for maximum production we find Beet Pulp quite a necessity, as it has the effect to lighten the ration and tends to offset any injury which might arise from heavy feeding. We also find it valuable for growing calves.
(Signed) A. W. MORRIS & SONS CORPORATION
By F. L. Morris."

IF YOU are in doubt about the value of Larrowe's Dried Beet Pulp for feeding to your cattle, we suggest that you get a single 100-lb. sack from your dealer and test it on one cow whose milk record you know. It may be had either plain or with molasses. Ask your dealer for LARROWE'S.

Feeding Instructions Free
Write for a copy of our valuable booklet "Profitable Feeding;" sent free on request to any address.

THE LARROWE MILLING CO.
934 Central Bldg. Los Angeles, Cal.

LARROWE'S DRIED BEET PULP
TRADE MARK REG. U. S. PAT. OFF.

GRANDSONS OF TILLY ALCARTRA
At Prices within Reach of Every Breeder and Dairyman.



A Grandson of Tilly Alcartra.

We have several splendid grandsons of this now famous cow which we can deliver to you at prices which will suit the pocketbooks of every dairyman wishing to improve the quality of his herd, whether it be a grade or pure-bred herd. These bulls are sired by our herd bull, Prince Alcartra Korndyke and out of A. R. O. cows, and the only living grandsons of a cow having a record of over 30,000 pounds of milk in a year. Such an opportunity for increasing production has never been offered DAIRYMEN AND BREEDERS in California, price and quality considered. Buy one of these bulls and solve your low production problem. Write

J. S. Gibson Co., Box 97 Williams. Cal.
"THE NAME GIBSON INSURES QUALITY."

When Grain is High Feed DIGESTER TANKAGE
Whether intended for show or market, the hog attains perfect condition and more quickly and economically if his ration includes some DIGESTER TANKAGE. The growing pig needs DIGESTER TANKAGE as a bone and muscle builder. Write for free pamphlet on hog-feeding.
WESTERN MEAT COMPANY,
Animal Food Dept., 704 Townsend St., San Francisco, Cal.

Mules Co-operate in Harvesting.

All hail to the mule! Twenty-eight of him, weighing 1300 to 1600 pounds, leaned into the collar as a unit under the gentle urging of the skillful driver and the big combined harvester started its half day round on the farm of N. C. Anderson in the Montezuma hills. Two lines to the four lead mules were sufficient to govern the whole bunch so efficiently that the harvester sickle bar took a full swath and no more. Around the steep hillside swung the regiment of mules at a slow, steady gait with the threshing machine behind them, across a gulley and along the next hillside, and another, and another, shelling out the golden grain in gratifying piles of sacks and dumping the straw in small bunches for future use.

It was the ingenious evener used on the machine which made the beautiful start of the mules possible, according to one man who works for Mr. Anderson. When the four leaders leaned into the collar at the command of the driver perched high in air far behind them, they pulled the eveners back on the four sets of six mules each, behind the leaders, so that not one of them could avoid working, nor could any of them well work at all unless the leaders were pulling.

But Mr. Anderson gives much of the credit to the driver of the mules and much credit to the mules themselves and their training.

"This is probably the best bunch of mules in this country; there isn't a lazy one among them," says he. "They are bred from Percheron and Shire mares; they are steady and careful; are not excitable, and they have a more uniform gait for all in the bunch; they stand the heat much better than horses."

Another strong advantage pointed out by Mr. Anderson is that in the hills they ordinarily need only 20 or 30 h.p. to run a combined harvester, but occasionally they want to get over a hill where much more power is necessary. All that is necessary is to rest the mules a little bit; give them a start, and they will exert the extra power necessary to take the machine over the hill, when they may rest again if necessary.

GROWTH OF SORGHUMS VARIES.

[Written for Pacific Rural Press.]

On the University Farm is a great stretch of field planted in strips 3 to 6 rows wide, of a dozen or more different kinds of sorghums unirrigated. There is great contrast between the varieties, though most all of them have extra heavy leafage from the ground up.

The kowliang was fully 8 feet tall July 23, but the lower leaves were mostly dead. Feterita averaged 6 feet tall with large, loose, erect heads just shedding their pollen. Dwarf milo, four feet tall had very few heads showing, but a tremendous amount of leafage. White and brown durra was fully headed and about 6 feet tall. Buff durra was 6 feet tall, but not headed out. Pink kaffir 3 feet high, not headed out, had the heaviest leafage of all. White kaffir was fully headed out four feet tall with some of the grain hardened, while some of it was just shedding its pollen. Standard milo was 5 feet tall with heads just peeping out. Shallu looked a great deal like the dwarf milo, being over 4 feet tall and having few heads showing. Indian corn in a field across the road averaged about 10 feet tall with the ears well silked out, about shoulder high and heavy leafage of beautiful dark green. This was drilled close together in rows the usual distance apart, in order to restrict the size of the stalks for silage.

RED-WATER IN CATTLE.

To the Editor: Some time ago I asked the Pacific Rural Press about a cattle disease called "red-water," which is present more or less all the time in this part of the country, and you answered that "red-water" is another name for Texas fever, adding that Washington is free from this disease. I have always believed so myself, and I have never heard of any cattle ticks being found either here or in Oregon. The description of the symptoms that I read in veterinary and farm books does not fit the case. The absolutely only characteristic noticeable in the disease, as it appears to me, is bloody urine. The animal has as good appetite as ever, and does not lose flesh until it has been suffering for a long time, or has had two or three attacks of the disease. It takes a long time before the animal succumbs. I have just met a neighbor who tells me that he has killed one bull and one cow this summer on account of this mysterious red-water malady. The bull was a fine, registered Jersey bull, 5 or 6 years old. He noticed the red-water for fully three months before he decided to butcher the animal. The bull was not sick, did not lose any flesh, and did not seem to suffer. The only organ that showed any change was the bladder, which was "thick as my thumb," to use his own expression. The farmers here consider the disease as a purely local affection with no effect whatever upon the rest of the body. The meat is considered perfectly healthy. But as the disease has a tendency to attack the animal time and again, and ultimately kill it, we are anxious to find out what it really is, and what the cause may be, whether it is some poisonous herb or something else, and also if there is any cure for it. Could you enlighten us on this subject?—Ernst Skarstedt, East Sound, Wash.

[This is a true Haematuria, rarely found as a specific disease, but usually as a symptom of other disease. It is peculiar to some localities, particularly in those sections which have low, damp, sour soils, and where all the feed is taken and used from such soils. It is also found in woodlands. The best remedy for the trouble is to cut out as far as possible the feeds grown on these soils and to substitute feeds grown elsewhere. The feeding of flaxseed tea in quart doses two or three times a day is very beneficial, but the main treatment is the change to feed grown on sweet soils. In advanced cases give potassium acetate in one-ounce doses twice a day. It is undoubtedly due to some mysterious toxin unknown at present, and contained in forage grown on the above described soils, which is released after simple ingestion, causing the destruction of some of the red blood corpuscles and a release of haematin contained in them, which is excreted by the kidneys; also it causes rupture of the vesicles of the bladder due to its irritation.]

To the owner of the cow showing the greatest production of butter fat for the 2 months beginning October 1 a cup has been offered by the Business Men's Ass'n. of Chico.

HORSE OWNERS! USE



GOMBAULT'S
CAUSTIC BALSAM.
A safe, speedy and positive cure. The safest, Best BLISTER ever used. Removes all bunches from Horses. Impossible to produce scar or blemish. Send for descriptive circulars.
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Order Now

Your IDEAL Green Feed SILO



You will never make the profit you ought to from your cows until you feed them silage.

Corn makes the best silage, but any good forage crop will make good silage providing you have a good air and water-tight silo.

If you have any growing crop suitable for silage, now is the time to order your **IDEAL GREEN FEED SILO** and get it up in plenty of time to fill.

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THORNTON S. GLIDE, Prop., Davis, Cal.
Breeders of
Short Horn Cattle
Shropshire and Merino Sheep

ATTENTION, SHEEPMEN.

My pure-bred, range-raised yearling Shropshire and Merino rams are now out of the mountains and ready for inspection at my place.

Shropshires sired by rams imported by me from England in 1911.

Short Horn Bulls
7 Choice Registered Tuberculin-tested Short Horn Bulls, aged 14 to 20 months. If interested, write or call immediately.
H. L. MURPHY, PERKINS, CALIF.

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HOPLAND, CAL.
Standard Bred S. C. White Leghorn Cockerels, seleeted for Breeders. Four months old, $12 per dozen; Yearling Hens, $12 per dozen. Standard Bred White Plymouth Rock, Fishel and Owen Farm Strains Direct. Hens one and two years old $18 to $24 per dozen. Four to five months old pullets, $18 per dozen. Selected Coekerels and Coek Birds, $5 eaeh and up.

ALTA VISTA HERD
REGISTERED GUERNSEYS.
Young bulls at very attractive prices. Also females ata all ages.
For particulars and prices address owner,
MRS. CHAS. G. LATHROP,
Stanford University, California.



With the Live Stock Men.

The Cow Testing Association recently formed at Arcata, Humboldt county, is meeting with gratifying success. Over 1200 cows or 30 per cent of the total in the district are now represented.

Rio Vista will hold a horse show on Admission Day, September 9th. The Show Committee contains the names of several well-known horse breeders, including E. W. Westgate, Daniel McCormack and Dr. Hanna.

An exchange says that an Illinois buyer who has been over the southwest pretty thoroughly, states that Arizona and California breeders are buying heavily of yearling ewes in New Mexico for breeding purposes, paying fancy prices.

With two carloads of horses and mules shipped from Merced the other day, practically all the stock of that district for sale to European governments for war purposes is cleaned up and the buyers have left for other parts.

State Dairy Inspector Sam Watson has found a number of instances in Sonoma county where cream separators are not properly cleansed after use and warns the dairymen that the law requires the sterilization of dairy appliances after use.

An outbreak of glanders is reported among a bunch of mules being used hauling grain in the Tulare Lake district of Kings county. The County Veterinarian was promptly on the spot, destroyed one animal and has the rest quarantined and under observation.

Col. Ben Rhoades will officiate as auctioneer at the consignment sale of Holstein cattle to be held at Hanford on October 14th and J. W. McAlister of Chino will act as sales manager. Such well-known breeders as R. F. Guerin of Tulare and Hewitt & Hewitt of Hardwick will offer animals at the sale.

The July report of the San Joaquin County Dairymen's Association shows 21 cows producing an average of 45 lbs. of butter-fat for the month. Of this number B. A. Goodwin of Ripon has three, all grade Holsteins. His herd of 40 cows is second in average in the county. He has an average of 29.9 lbs. butterfat.

There will be a notable consignment auction sale of high-class Holstein cattle held at Sacramento on October 6th, when McAlister & Son of Chino and A. W. Morris & Sons of Woodland will offer many of the best individuals of their respective herds. Watch our advertising columns for the announcement of this important sale.

Cow Testing will begin this week east of Mesa, Arizona. M. C. Tucker, tester, has been distributing milk scales and sample bottles lately. He has now succeeded in getting a $4 milk scale for the ranchers at $2.50 by ordering enough for all of them and agreeing to stand the freight back to the factory on all that were not disposed of.

Among the Berkshires to be shown at the Panama-Pacific this fall are several from the herd of F. W. White of Elk Grove, who won 14 prizes on the nine head shown last year at the State Fair. Robins Ruby, now four-year-old champion, sow last year, is one; Columbia's Model 28th and her daughter Columbia's Model 40th are others; a grandson and a great grandson of the St. Louis World's Fair World's Champion Premier Longfellow.

An eastern publication describes a novel way of making a sick hog take its medicine. The owner cut some slits in the toe of an old shoe and while another man held the animal, stuck the shoe in its mouth. The pig squealed, chewed the shoe viciously, and when the medicine was poured into it, swallowed it as if drinking from a trough. In three days the hog was well. A trick well worth knowing—if one knows what ails the pig.

New Zealand is soon to have a large flock of prize sheep on display in the live stock division of the exposition. They are for the express purpose of giving the sheepmen of America an idea of the character of sheep raised in that province. More than 100 of the following breeds have been collected for shipment: Romney Marsh, Corridale, Lincoln, Border Leicester, English Leicester and Down. Last year New Zealand raised 25,000,000 sheep and exported about 7,000,000 dressed.

Prof. A. M. McOmie, Agriculturist in charge of the Experiment Station north of Phoenix, has proven that sheep pastured on Johnson Grass will practically exterminate it in two years. The proper management of pasture should be to grow a crop and turn on enough stock to eat it in about a week and then get them off the ground and let it grow again. Alfalfa can be pastured under this system as long as a field should be allowed to stand in any one crop.

The Umatilla County branch of the Oregon State Horsebreeders' Association will hold its first annual horse and mule-show at Pendleton on October 9. As no fee will be charged for entries of horses or mules and the exhibitors will be allowed free feed for their stock and free admission for themselves and grooms, it is expected that there will be a large number of animals shown. Members of the O. A. C. livestock division will be the judges.

The Berkshire view herd at the P. P. I. E. grounds has been somewhat changed since the first of the month by the addition of 14 head from Brookwood Farms, Ames, Iowa. This was a portion of a carload which were shipped, the balance of the shipment being distributed as follows: 31 head to Thatcher and Ennis, Riverside county, two to Frank Brush, Sonoma county, one to F. R. Steele of Oregon and one to H Hewens of Napa county.

The eastern consignment of Shorthorn cattle for the Shorthorn view herd at the Exposition grounds arrived the first of this month and have been stabled in the barn which also contains the Berkshire swine view herd. There are 12 head altogether, five bulls and five heifers from five states in the east and two head from the Hopland Stock Farm at Hopland. The herd will be maintained till the opening of the livestock show in October.

Nothing detracts more from the appearance of a horse than a scraggly mane or a bobbed tail. This unsightliness may often be avoided by care in grooming. The mane and tail should always be combed gently and carefully.

If either becomes badly tangled take some oil—automobile cylinder oil of a good grade will serve the purpose—and pour on the mane or tail and work it in with the fingers until the whole of the tangled mass is thoroughly wet. Then, using a mane comb, begin at the edge of the tangle and pick out a few hairs at a time. The hairs will slip over one another easily, and with the exercise of some care the worst tangle may be removed.

The Guernsey cow Imp. Violet IV of Corbinez 32405 A. R. 1780, sired by Imp. The Conqueror II, 15323 A. R., who is a son of Governor of the Chene 1297 P. S., and out of Imp. Primrose of the Gree 28518, has just finished a yearly record of 16,336.4 pounds of milk containing 756.72 pounds of butter fat. She freshened March 4, 1914, and was started on test four days later. This record adds another honor to the already long list gained by Governor of the Chene 1297 P. S. and his progeny.

The total live stock in California December 31, 1914, as reported by State Statistician Geo. Robertson in the State Board of Agriculture's report just issued, is as follows: horses 503,000, an increase of 5,000 over the year previous (the war demand has greatly decreased this total since then); mules, 74,000, an increase of 1000; milk-cows 541,000, an increase of 26,000; other cattle 1,480,000, an increase of 70,000; sheep 2,500,000, a decrease of 51,000; and hogs 877,000, an increase of 80,000. Some of these increases are due to movements from Mexico on account of revolution troubles.

Systematic campaigns of State Veterinarian Chas. Keane's office against sheep scab and Texas fever have practically eradicated them from California. There was recently a serious outbreak of Texas fever in Madera county and sheep scab in the Mendocino-Lake-Sonoma region. Work on these delayed the similar systematic state-wide campaign against hog cholera which Dr. Keane hopes to have in operation within 6 or 7 weeks. Co-operation of county supervisors is hoped for on a plan, the details of which are not yet perfected. Swine breeders' associations will be depended on. Probable one of the main features of the program will be disinfection as thorough as possible wherever cholera hogs have been, with some one of the coal tar disinfectants, such as liquor cresolis, which are effective but harmless to the hogs. A 3 per cent solution of the liquor cresolis is now recommended by the State Veterinarian for disinfection of the ground and premises, while 2 per cent is strong enough to use on the hogs.

BREEDERS SHOULD FILE APPLICATIONS.

All livestock breeders who expect to compete for prizes at the Exposition this fall should remember the dates on which entries for the various divisions close, as entries received after the closing dates will not be accepted. For the benefit of those who have not already received the final classification the following dates are again printed: Entries for horses, mules and asses close September 1; for beef cattle September 15; for dairy cattle September 15; for swine, sheep and goats, October 1; for poultry and pigeons October 15, and for carload lots of cattle, sheep and swine October 10. Each exhibitor should write to the Livestock Department, P. P. I. E. Grounds, for prize list, rules and regulations and application blanks. None of the herds containing animals which were infected with foot and mouth disease will be permitted to enter the State, thus insuring local herds and flocks against possible infection.

From present indications eastern

Oak Grove BERKSHIRES
CHOLERA IMMUNE.
Our herd is Cholera Immune, the only Immune Berkshire herd in the State.
Five herd boars in use and they are second to none on the coast. Our sows are of equal merit.
We have at present some 300 Berkshires and we know that we can supply what you want.
Write Us or Call.
OAK GROVE DAIRY FARM
H. G. ARMSTRONG, Prop.
Woodland, Cal.

Swineland
TAMWORTHS, DUROC JERSEYS.
We have for sale fine young stock, both sexes; also boars ready for service and bred sows. No better stock in this State. We have recently moved our big breeding establishment from Yuba City to Woodland.
Write or call and see us.
SWINELAND FARM.
W. O. PEARSON, Prop. WOODLAND, CAL.

Hopland Shorthorns
Hopland Berkshires
All Stock Registered.
Bulls of Highest Quality.
YOUNG SOWS AND BOARS
of finest
Breeding and Type.
Prices on Application.
HOPLAND STOCK FARM
HOPLAND, CAL.

For Sale
800 Unrecorded Pure-Bred
Shropshire Ewes
in lots to suit.
These sheep are large and in fine condition. Can be seen near Firebaugh. Price on application.
MILLER & LUX, Incorporated.
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Expert Live Stock Auctioneers
Sales conducted in all parts of California and adjoining States. Write for dates and terms.
Twenty-five years' experience.
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Sheep, Cow and Horse Manure in any quantity.
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Blatchford's Calf Meal
has been known since the year 1890 as the complete milk substitute. Costs less than half as much as milk — prevents scouring — promotes early maturity. Sold by dealers or direct from the makers.
Write for New Data See actual figures showing you how to increase your calf profits.
F. F. SMITH & CO. - Sacramento, Cal.

breeders will make a large showing at the Exposition in October and November. A representative of the American Shorthorn Breeders' Ass'n is authority for the statement that a special train will be made up at Kansas City for exhibitors of that breed and that keen competition may be expected in all classes as the stock will come direct from the Kansas City Royal Show. Hood Farm of Springfield, Mass., will be a competitor in both the Jersey cattle and Berkshire swine classes, and Mr. Gentry of Illinois will very probably be a Berkshire competitor. D. O. Lively states that entry applications are arriving in amazing numbers and that there is no doubt of the success of the show, now that the foot and mouth quarantine has been raised.

Some of our subscribers may remember a front page description of the "certified dairy" of H. R. Timm of Dixon, published some four years ago. Mr. Timm started with 15 cows, but now has 250, and has just completed what is said to be the largest dairy barn in the state. It is 208 feet long, 60 feet wide, and 26 feet at the peak, and cost $10,000. The entire floor and sides are concrete. There are 300 swinging windows, and the ceiling is tightly sealed, making the stable practically dust proof and perfectly ventilated. The dairy now ships out 3000 quart bottles of certified milk daily, the growth of the business being calculated at 1200 per cent in six years.

AGRICULTURAL REVIEW.

(Continued from page 151.)

prevent its shipment across the continent.

Butte county supervisors have voted to institute a county-wide campain against the yellow star thistle. The county hortcultural commissioner is instructed to serve notice immediately on property owners whose lands are infested. There has been much contention over this weed campaign.

With several hundred acres coming into bearing, and all of the older trees breaking down under the weight of a heavy yield, the peach crop in Sutter county this year is larger and of better quality than at any time in the history of the county. Local growers believe that the peach crop from this county this year will exceed that of every other county in the State. Although the price for peaches this year ranges from only $7 to $12 a ton, and in a few cases $20 to $25, where contracts had been made previously, as against $27.50 to $32 per ton last season, growers feel confident that the slump will not continue over another season.

GRAIN AND FIELD CROPS.

Five thousand sacks of rice were delivered to the Gridley Rice Milling Company by the Moulton ranch last week.

Notwithstanding some damage suffered from worms and hoppers, the bean growers of Colusa county anticipate a good yield.

Farm Adviser Lyons has had so many calls for his services that it has been found necessary to provide him with an assistant.

The United States Crop Reporting Bureau estimates the condition of the cotton crop on July 25th as 75.3 of normal.

The Oakdale district of Stanislaus county is finding sugar beets a good crop and the 300 acres planted will be considerably increased.

With the stiffening price for alfalfa, a Hanford paper estimates that the crop of Kings county will realize $2,500,000 for the growers this season.

The hop crop of Sonoma county is well forward this year, the recent weather having been most favorable. Picking will commence in about ten days.

A report from Sutter county gives the growth of Soudan Grass as over eight feet from the time the seed was put in the ground seven weeks before.

The total carload shipments of melons from Brawley, Imperial Valley, has already exceeded those of last year with much more yet to be shipped.

Folki, a Chinese variety of string bean, is reported to thrive in sections of Yuba county and find a ready sale in the San Francisco market at 40c to 50c a pound.

L. P. Denny of Summit Lake district, Fresno county, reports the wheat crop in that section as turning out very heavy. Some of it grew so rank that it lodged very badly.

Horticultural Commissioner Beers of Santa Barbara reports a greatly increased acreage of beans in his county, and, expecting an increase foreign demand, predicts a profitable year for the growers.

An energetic campaign is being made to secure members for the California Ripe Olive Association in the Oroville district of Butte county, where it is hoped to enroll anywhere from 100 to 150 members.

Owing to favorable weather conditions, Butte county rice growers estimate they will harvest a crop of ninety per cent of normal this year. It is said there are now 20,000 acres planted to rice in Butte county.

Esparto, Yolo county, will hold an "Almond Festival" on September 4th. This is said to be the first almond show ever held in the United States, but aside from the almond feature, there will be a display of stock and another of babies.

Fallon, Nevada, papers announce that a State Fair will be held in that city about the end of September, admitting at the same time, however, that some opposition exists against the scheme in Reno, but which Fallon expects to overcome.

Hay is gaining in price steadily. The heavy export demand and the plowing under of many alfalfa fields has caused the lowering of stocks and the supply to such an extent that the price promises to advance very materially over the figures offered early in the season.

In the section around Manteca, San Joaquin county, there has been planted this year a large acreage of sunflowers. The yield is estimated will be 300,000 pounds of seed, which will be sent to Los Angeles and made into oil and the residue fed to stock.

Hop picking in the Sacramento valley will commence next week and in the Sonoma fields about the 25th. Prospects are good for a yield all along the coast of 10 per cent larger than last year. Prices are very fair. as the market has been advancing for several weeks. Hop pickers will be paid one cent per pound this year.

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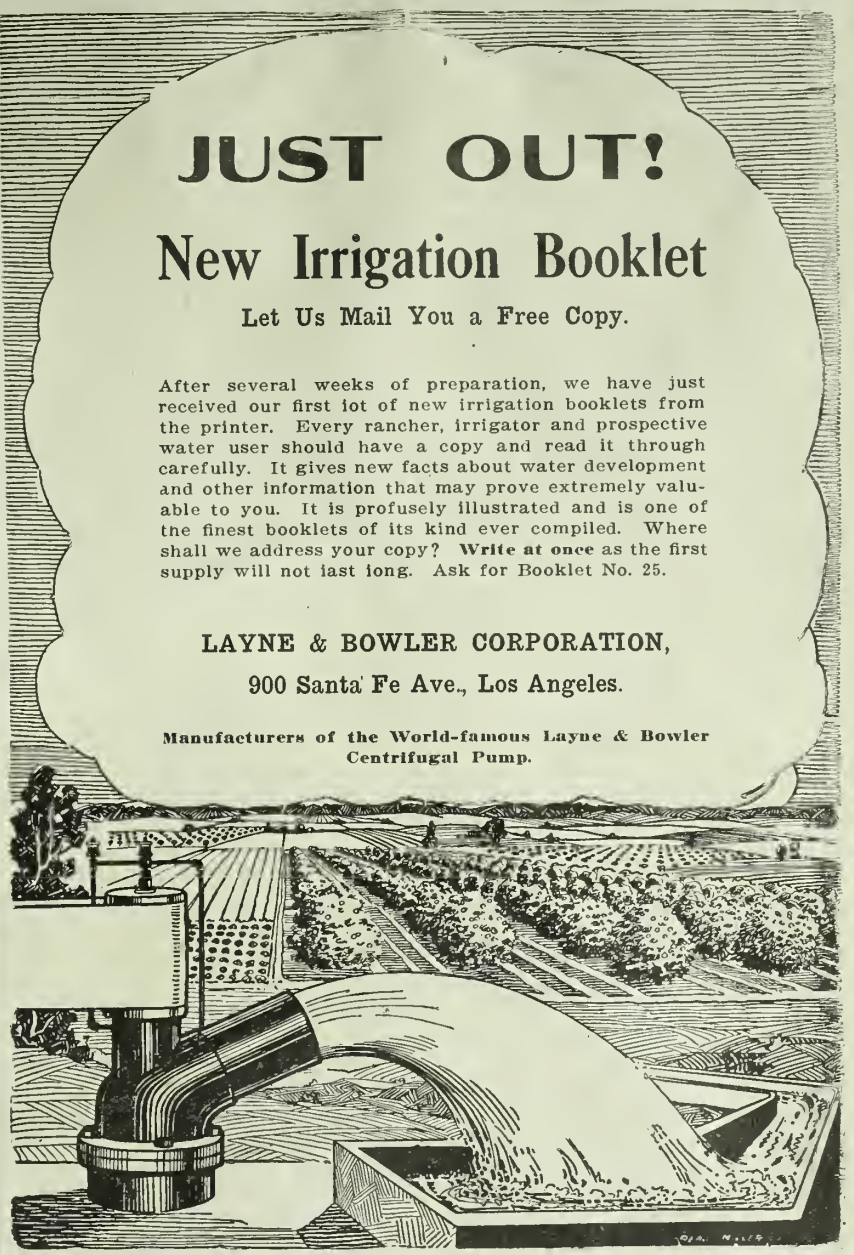
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After several weeks of preparation, we have just received our first lot of new irrigation booklets from the printer. Every rancher, irrigator and prospective water user should have a copy and read it through carefully. It gives new facts about water development and other information that may prove extremely valuable to you. It is profusely illustrated and is one of the finest booklets of its kind ever compiled. Where shall we address your copy? **Write at once** as the first supply will not last long. Ask for Booklet No. 25.

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The Home Circle.

KITTY WISDOM.

By Oliver Penmark.

Pray tell me, Pussy Kitty,
Tell me, will you not,
Why you always curl up snug
On the only sunny spot?

Pussy, mewsing, answered,
'I choose the sunny spot
Because I think it wiser;
Now tell me, dear, why not?

"Perhaps as you grow older,
And wiser, too, you'll not
Fail to make the most, dear,
Of every sunny spot!"

A VISIT TO THE OLD HOME.

"Hello, Jim, where've you been lately?" shouted a broker the other evening to a portly, finely dressed man in the corridor of the Palmer House. The gentleman stooped, shook hands with his friend, and replied: "I've been home to see my old father and mother, for the first time in sixteen years, and I tell you, old man, I wouldn't have missed one day of that visit for all my whole fortune."

"Kind of good to visit your boyhood home, eh?"

"You bet! Sit down. I was just thinking about the old folks and feel talkative. If you have a few minutes to spare sit down, light a cigar, and listen to the story of a man, who in the chase for wealth, had almost forgotten his father and mother."

They sat down and the man told his story.

"How I happened to visit my home happened in a curious way. Six weeks ago I went away duck hunting. I had a lunch put up for me, and you can imagine my astonishment when I opened the hamper to find a package of crackers wrapped up in a piece of the little patent inside, country weekly paper published at my old home in Wisconsin. I read every word of it, advertisements and all. There was George Billings, who was a schoolmate of mine, advertising ham and salt pork, and another boy was postmaster. By George! It made me homesick, and I determined then and there to go home and go home I did.

"In the first place, I must tell you how I came to Chicago. I had a tiff with my father and left home. I finally turned up in Chicago with a dollar in my pocket. I got a job running a freight elevator in the very house in which I am now a partner. My haste to get rich drove the thoughts of my parents from me, and when I think of them, the hard words that my parent last said to me, rankled in my bosom. Well, I went home. I tell you, John, my train seemed to creep. I was actually worse than a schoolboy going home for a vacation. Familiar sights met my eyes, and upon my word they filled them with tears. There was Bill Scott's red barn, just the same, but, Great Scott! what were all the other houses? We rode nearly a mile before coming up to the station, passing many houses of which only an occasional one was familiar. The town had grown to ten times its size when I knew it. The train stopped and I jumped off. Not a face in sight that I knew, and I started down the platform to go home. In the office door stood the station agent. I walked up and said: 'How'dy, Mr. Collins?" He stared at me and replied: 'You've got the best on me, sir.' I told him who I was and what I had been doing in Chicago, and he didn't make any bones in talking to me. Said he: 'It's about time you came home; you in Chicago, rich, and your father scratching gravel to get a bare living!' I tell you, John, it knocked me all in a heap. I thought my father had enough to live comfortably. Then a notion struck me. Before going home I telegraphed to Chicago to send me $1,000 by first mail. Then I got into Mr. Collins' back office, got my trunk in there, and put on an old hand-me-down suit that I used for hunting and fishing. My plug hat I replaced by a soft white one, took my valise in my hand and went home. Somehow the place didn't look right. The currant bushes had been dug up from the front yard, and the fence was gone. The house looked smaller somehow, too. But I went up to the door and rang the bell. Mother came to the door and said: 'We don't wish to buy anything today, sir.'

"It didn't take me a minute to survey her from head to foot. Neatly dressed, John, but a patch and a darn here and there, her hair streaked with grey, her face thin, drawn and wrinkled. Yet over her spectacles shone those good, benevolent, honest eyes. I stood staring at her and then she began to stare at me. I saw the blood rush to her face, and with a great sob she threw herself upon me and nervously clasped me about the neck, hysterically crying: 'It's Jimmy, it's Jimmy!'

"Then I cried, too; John, I just broke down and cried like a baby. She got me into the house, hugging and kissing me, and then she went to the back door and shouted, 'George!'

"Father called from the depths of the kitchen, 'What do want, Car'line?'

"Then he came in. He knew me in a moment. He stuck out his hand and grasped mine and said, sternly: 'Well, young man, do you promise to behave yourself now?' He tried to put on a brave front, but he broke down. There we three sat like whipped school children, all whimpering. At last supper time came and mother went out to prepare it. I went into the kitchen with her.

" 'Where do you live?' she asked.

" 'In Chicago,' I replied.

" 'What are you working at now, Jimmy?'

" 'I'm working in a dry-goods store.'

" 'Then I suppose you don't live very high, for I hear of city clerks who don't make enough to keep body and soul together. So I tell you, Jimmy, we've nothing but roast spareribs for supper. We haven't any money now, Jimmy, we're poorer than Job's turkey.'

"I told her I would be delighted with the spareribs, and to tell the truth, John, I haven't eaten a meal in Chicago that tasted as good as those crisp, roasted spareribs did. I spent the evening playing checkers with father, while mother sat by telling me all about their misfortunes, from old white Molly getting drowned in the pond, to father's signing a note for a friend and having to mortgage the place to pay it. The mortgage was due inside of a week and not a cent to meet it with, just $800. She supposed they would be turned out of house and home, but in my mind I supposed they wouldn't. At last nine o'clock came and father said: 'Jim, go out to the barn and

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The ant is hard to kill, and countless remedies were tried upon him without result. It was a sorry day for the ant family, however, when they started to overrun the candy shop and bakery of an ingenious resident of Los Angeles.

Driven to desperation by the annoyance, this man, after much experimenting, devised a paste whose effect upon ants borders upon the supernatural. Suffice to say, it rid his entire shop of the pest in one day.

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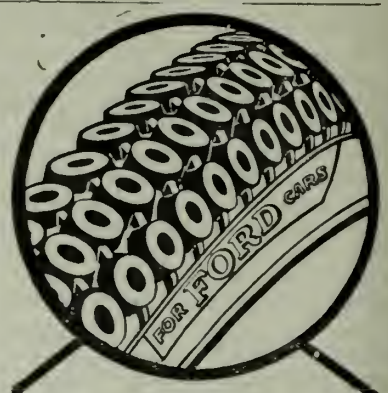
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see if Kit is all right. Bring in an armful of shingles that are just inside the door and fill up the water pail. Then we'll go to bed and get up early and go fishing.'

"I didn't say a word, but went out to the barn, bedded down the horse, broke up an armful of shingles, pumped up a pail of water, filled the woodbox, and then we all went to bed. Father called me at 4:30 in the morning, and while he was getting a cup of coffee, I skipped over to the depot, cross lots, and got my best bass rod. Father took nothing but a trolling line and a spoon-hook. He rowed the boat with the trolling-line in his mouth, while I stood in the stern with a silver shiner rigged on. Now, John, I never saw a man catch fish as he did. To make a long story short, he caught a bass and five pickerel and I never got a bite.

At noon we went ashore, and father went home while I went to the post-office. I got a letter from Chicago with a check for $1,000 in it. With some trouble I got it cashed, getting paid in $5 and $10 bills, making quite a roll. After that I went visiting among my old school mates for two hours and then went home. The joint was in the oven. Mother had put on her only silk dress and father had donned his Sunday go-to-meeting clothes, none too good, either. This is where I played a joke on the old folks. Mother sat in the kitchen warming the roast. Father was out in the barn, and I had a clear coast. I dumped the sugar out of the old blue bowl, put the $1,000 in it and placed the cover on again. At last supper was ready. Father asked a blessing over it, and he actually trembled when he stuck his knife into the roast.

" 'We haven't had a piece of meat like this in five years, Jim,' he said, and mother put in with, 'And we haven't had any coffee in a year, excepting the times when we went a-visiting!' Then she poured out the coffee and lifted the cover of the sugar-bowl, asking as she did so, 'How many spoonfuls, Jimmy?'

"Then she struck something that wasn't sugar. She picked up the sugar-bowl and peered into it. 'Aha, Master Jimmy, playing your old tricks on your mammy, eh? Well, boys will be boys!'

"Then she gasped for breath; she saw it was money. She looked at me, then at father, and then with trembling fingers drew the great roll of bills out.

"Ha! ha! ha! I can see father now as he stood there, on tiptoe, with his knife in his hand, fork in the other, and his eyes fairly bulging out of his head. But it was too much for mother. She raised her eyes slowly to heaven, as she said slowly: 'Put your trust in the Lord, for He will provide.'

"Then she fainted away. Well, John, there's not much more to tell. We threw water in her face and brought her to, and then we demolished that dinner, mother all the time saying, 'My boy Jimmy! my boy Jimmy!'

"I stayed home a month. I fixed up the place, paid off all the debts, had a good time and came back again to Chicago. I am going to send $50 home every week. I tell you, John, it's mighty nice to have a home."

John was looking steadily at the head of his cane. When he spoke he took Jim by the hand and said: "Jimmy, my friend, what you have told me has affected me greatly. I haven't heard from home way out in Texas for ten years. I'm going home tomorrow."—Western Farmer.

LOGAN AND BLACKBERRY RECEIPTS.

The Sebastopol Berry Growers' Association recently gave prizes for the best recipes for using Loganberries and Mammoth Blackberries. Here are a few of them:

Loganberry Cake Filling.—Beat together until smooth and stiff one cupful sugar, white of one egg, and one cup fresh Loganberries, crushed. This is an attractive and delicious filling used with any good layer cake recipe.

Loganberry Shortcake.—Make a rich biscuit-crust, split, butter, spread both layers, cut side up, with Loganberries crushed with sugar—two cupfuls to the quart of berries. Serve with thick or whipped cream.

Loganberry Jelly.— Wash and drain ripe, fresh berries; pour them in preserving kettle until it reaches two-thirds of the way to the top of the berries; stew until tender, drain over night in a flannel bag which has previously been wrung out of hot water. Do not squeeze—let it drip. In the morning add as much sugar as you have juice. The kettle must not be over half full or it will run over. Boil just twenty minutes, skimming off foam constantly.

Raw Loganberry Jam.—Put three pounds of berries and three pounds of sugar in an earthen or granite dish in the following manner: One layer of berries and one layer of sugar alternately; let stand two hours, and then with a wooden spoon stir thoroughly to blend the mixture. After this stir very thoroughly four times a day for three days. Put in glasses and seal like cold jelly.

Blackberry Jam Cake.—One and one-half cups sugar and three-quarters cup butter beaten to cream, add yolks of five eggs, beat well; one cup buttermilk, three cups flour, one-half cup blackberry jam; cloves, nutmeg, cinnamon to taste; one teaspoon soda, dissolved in warm water and added just before baking. Bake in layers, put together with boiled icing.

Delicious Blackberry Whip.—Two-thirds cup ripe blackberries, one-half cup granulated sugar, white of one egg. Put ingredients in platter and beat steadily until the mixture will stand alone. Serve as a dessert with a few ripe berries on top; or chill and serve as a dainty dessert in sherbert glasses, or use for filling in a layer cake. The whip will keep fresh two or three days in a cool place.

"What made you distrust that Italian refugee? I thought he told a straight story." "It sounded so, but when I questioned him as to his home and occupation he said he was a street-cleaner in Venice."—Baltimore American.

"Willie," said the boy's interested uncle, "I hope you take pains with your lessons in school." "I took pains with 'em today, anyhow," replied the young gentleman. "Unusual pains?" "Yes, sir; unusual pains. Teacher whipped me twice."—Washington Star.

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STANDARD OIL COMPANY
(California)
San Francisco

The Markets.

Unless otherwise noted, prices are f. o. b. San Francisco.

San Francisco, August 11, 1915.

WHEAT.

Considerable new crop wheat is coming in, but strictly good milling wheat for prompt delivery is scarce, both here and in other markets. There is accordingly a rather firm feeling, and really first-class stock might hring a premium over the quotation. The new crop here so far shows disappointing quality.

Sonora	$1.77½ @ 1.82½
Cal. Cluh, ctl.	1.80 @ 1.82½
Forty-fold	1.80 @ 1.85
Northern Bluestem.	195 @ 2.00
Northern Cluh	1.80 @ 1.82½
Northern Red	1.75 @ 1.90

BARLEY.

The outlook for supplies for the coming year is not so favorable as it was formerly considered, and prices for both spot and future offerings show a further advance, the speculative market being especially strong.

Shipping	$1.30 @ 1.34
Choice Feed, ctl.	1.25 @ 1.30

OATS.

There is not much activity yet, though the advance in barley is bringing more attention to thls grain. New red oats are coming in fairly well, and there is a good deal of oats mixed with harley, which sells at rather easy prices.

Red Feed	$1.35 @ 1.45
White	1.45 @ 1.50

CORN.

Eastern corn shows some firmness, though not quotahly higher here. Other lines are unchanged, with a falr johhing demand and large offerings of off-grade stock.

California Yellow	$1.80 @ 1.85
Eastern Yellow	1.85 @ 1.90
Milo Maize	1.75 @ 1.80
Manchurian	1.40 @ 1.60
Kaffir	1.80 @ 1.85

BEANS.

The bean situation appears a little uncertain at present. Large handlers are quoting somewhat lower prices for several varieties, yet the market shows an appearance of strength, judged hy prices recently paid for spot supplies in the johhing trade. Small whites, and red kidneys, according to some reports, are especially firm, and the figure on limas has been advanced slightly. In general, however, the new crop is coming on in good shape, with indications of a large crop, and some decline may prohahly be expected as new offerings become avallahle.

(On Wharf.)

Bayos, Cal., per ctl.	$3.50 @ 3.75
Blackeyes	4.00 @ 4.25
Cranherry Beans	3.50 @ 3.75
Horse Beans	1.75 @ 2.00
Small Whites	3.75 @ 3.90
Large Whites	3.50 @ 3.75
Pink	3.00 @ 3.15
Limas	4.15 @ 4.25
Red Kidney	4.90 @ 5.00
Mexican Reds	4.90 @ 5.00

HAY.

Current arrivals continue heavy as for some weeks past, hut the consuming trade is waking up to the fact that the year's supply will not be excessive, and are loading up for the winter; accordingly all arrivals are readily disposed of. and prices on some lines again show a slight advance. Not only has a great deal of hay been shipped to Australia, but a heavy tonnage of alfalfa from the Valley has gone to Europe. Recent country sales show some advance in prices, and with continued export demand the outlook is encouraging for growers. Lltle alfalfa ls coming thls way, and all offerings clean up quickly at good prices.

(On track, San Francisco.)

No. 1 Wheat, per ton	$11.50 @ 12.50
do No. 2	8.50 @ 10.00
Barley	8.00 @ 10.00
Tame Oats	8.00 @ 11.50
Wild Oats	6.00 @ 9.00
Alfalfa	8.00 @ 11.00
Stock Hay	5.00 @ 5.50
Straw, per bale	.25 @ .40

SEEDS.

(Wholesale prices, San Francisco.)

Alfalfa	Nominal
Brown Mustard, per lb.	Nominal
Canary	10 @ 12½c
Hemp	3 @ 3½c
Millet	2½ @ 3 c
Timothy	7½ @ 8 c

FEEDSTUFFS.

Middlings show a slight advance, with some fancy lots held even higher. Rolled barley is also higher, in sympathy with the whole grain, and rolled oats are firmly held.

(Wholesale prices per ton, carload lots, San Francisco.)

Beet Pulp, per ton	$20.00 @ 21.00
Alfalfa Meal, ton	14.00 @ 15.00
Alfalfa Molasses Meal per ton	18.00 @ 19.00
Bran, per ton	28.00 @ 29.50
Oilcake Meal	38.00 @ 39.00
Cocoanut Cake or Meal	23.00 @ 25.00
Cracked Corn	41.00 @ 42.00
Middlings	35.00 @ 37.00
Rolled Barley	27.00 @ 28.00
Rolled Oats	33.00 @ 34.00

VEGETABLES.

Arrivals in general continue fairly large, but there has been a good demand, and several lines show some improvement in price. Tomatoes are still very plentiful, hut 30c is about the inside price, and really good stock sells up to 65c. Beans and peas are offered less freely, and show a tendency upward, though little change is noted so far. Green peppers are rather easy, and eggplant sells even lower than last week, while cucumbers have picked up. Okra is offered freely, and ordinary lots are cheap. First-class corn holds up well, but off-lots are weak.

(Wholesale prices, San Francisco.)

String Beans	1 @ 2½c
Lima Beans	3 @ 4 c
Peas, sack	1.25 @ 2.00
Peppers, bell, bx.	30 @ 50 c
Tomatoes, River lugs	30 @ 65 c
Cucumbers, lug	40 @ 75 c
Eggplant, lug	30 @ 50 c
Summer Squash, lug	35 @ 65 c
Green Corn, sack,	50 @ 1.25 c
Okra, lug	30 @ 50 c

POTATOES AND ONIONS.

Potatoes show some firmness, though prices for most offerings are still comparatively low. A few sweet potatoes are coming in, and sell at high price. Onions find little demand here, and prices are weak, though some huying is heing done for Australia.

Delta Burbanks	.65 @ 1.00
Sweet potatoes, lb	5@ 7c
Onions, yellow, sack	.50 @ .60
Red, sk	.35 @ .50
Garlic, per lh, new	4½ @ .6c

POULTRY.

Poultry moves off a little better this week, and while arrivals for the last day or two have been freely large, broilers are hringing better prices. Small hens are rather easy. According to local dealers, the kind of coop in which chickens are shipped will make an appreciable difference in the price realized, as flimsy and unsightly coops are a nuisance to handle and make the stock look bad.

(Wholesale Prices, San Francisco.)

Live Turkeys, lh	15 @ 17 c
Broilers, 15 lb under	27 @ 28 c
Fryers	22 @ 24 c
Hens, extra, per lb	16 @ 17 c
Small Hens, per lb	13 @ 15 c
Smooth Young Roosters per lb	23 @ 25 c
Squabs, per doz	$2.00 @ 3.50
Geese, per pair	2.00 @ 2.50
Ducks, young, lh	13 @ 14 c
Old	12 @ 13 c
Belgian Hares	7 @ 8 c

BUTTER.

Arrivals continue rather heavy, but there is an active buying movement which prevents any undue accumulation, and prices for extras and primes hold as for about three weeks past. Firsts are again quoted.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	27	27	27	27	27	27
Prime Firsts	25½	25½	25½	25½	25½	25½
Firats	—	—	—	24½	24½	24½

EGGS.

Arrivals are gradually dropping off, while the local demand continues exceptionally heavy, and the upward movement accordingly continues, though the advance is not as great as for the previous week.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	30	30	30	30½	32	32
Sel. Pul.	23	23	23½	24½	26	26

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Firsts	24½	24½	24½	24½	25	25

CHEESE.

The only quotahle change is an advance from 12½ to 14c. in fancy Y. A.'s. Arrangements have been made for trading on the Exchange in California flat cheese of the cheddar type.

(S. F. Dairy Exchange prices on flats and Y.A.'s.)

Y.A.'s, fancy	14 c

"Every Day is Bargain Day" to the Man who Buys BUILDING MATERIAL from WHITING MEAD'S Big CATALOG!
1915 Edition is FREE to you—Saves 20% to 40%

$15 to $18 Front Doors $10 Veneered Oak with Plate Glass

—A typical value from our Sash and Door Dept., finest quality veneered oak doors with plate glass panels at top. Secured by special purchases recently and not mentioned in our catalog. All standard sizes and styles. Write for further detalls.

Screen Doors 25% Off

—New screen doors, the overstock of a famous door factory, made of best selected sugar pine in standard stock sizes. These doors can be duplicated in any first class yard at 25% to 40% more.

Style No. 8, $1.25

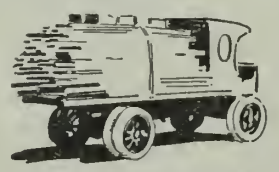
—This door usually sells for $1.65. Made of clear sugar pine and fitted with black screen wire, like picture, at our price..... $1.25

Style No. 9, $1.40

—Made of sugar pine, with three lower panels and fitted with galvanized screen wire. A door that will stand lots of use; our price..... $1.40

Odd Doors $1 and $1.25

—Inside doors of best sugar pine, 5 panel Colonial and 5 panel O. G., styles a big lot of them, in all sizes.



Oregon Pine $10 to $15

—Good new rough Oregon Pine lumber, all sizes, at $10 to $15 per thousand.
—Oregon Pine lath, 4 ft., new, $2.50 per thousand.
—Best grade Slashed Grain Oregon Pine, sanded finish, $37.50 per thousand. This makes a beautiful interior finish.
—These prices will give you an idea of how our lumber department can save you money. Send in your lists and let us give you our price delivered.

Paints $1.50 Gal.

—You can buy paints cheaper from us than any other dealer in the West. We buy in large quantities an dsell for the lowest prices.
—Standard House and Floor Paints, $1.50 per gal.
—Standard makes of varnishes at 25% off regular prices.
Everything in Paints, Wall Tints, Brushes, etc., at big savings to you.

Dutch Kaisomine 4½c per lh.

Black Graphite Roof —per gal.	50c
Standard Roof Paints—red, green, gray—per gal.	85c
Shingle Stain, made from pure ground colors —per gal.	50c



"Standard" Roofing Paper

—A splendid quality of roofing paper that most firms would sell 20 to 40 per cent higher. Each roll complete with necessary cement, nails, etc., ready to lay.

1-ply, double-sanded, per roll of 108 square feet	$1.15
2-ply, double-sanded, per roll of 108 square feet	$1.40
3-ply, double-sanded, per roll of 108 square feet	$1.65
1-ply, "King" smooth, per roll of 108 square feet	$1.25
2-ply, "King" smooth, per roll of 108 square feet	$1.50
3-ply, "King" smooth, per roll of 108 square feet	$1.75

—Send for free asmple. Remember we ship direct to you.

SHOVELS!—At Wholesale Cost—SHOVELS!

—You may go a life time before you get such an opportunity again. These shovels are in A-1 order but have been slightly smoked by means of a fire while in transit.
—Every one in perfect working condition, all atyles and sizes; note the prices:

Long Handle, Round Point Shovels, per doz.	$4.85 or 50c each
Long Handle, Square Point Shovels, per doz.	$4.85 or 50c each
D Handle, Round Point Shovels, per doz.	$4.15 or 50c each
D Handle, Square Point Shovels, per doz.	$4.15 or 50c each
Long Handle Spades, per dozen	$3.75 or 40c each
D Handle Spades, per dozen	$3.75 or 40c each
Long Handle Scoops, per dozen	$3.75 or 40c each
D Handle Scoops, per dozen	$3.50 or 40c each

Dana Freezers at Half

—A big lot of Dana freezers. Send in your order today. We've sold hundreds of them at these prices and have yet to hear a single complaint.

3-quart size, regular $2.25, now	$1.00
4-quart size, regular $2.50, now	$1.25

$30 Wallboard for $19

—The highest grade wallboard on the market; made of 3 layers of moisture-proof fibre, with asphaltum between each layer; or cream white fiber board.
—Cheaper and neater than plaster or lumber, and anyone can install it in one-quarter of the time. Per 1000 square feet..... $19.00

This Special Steel Enameled Bath Tub $8



—One of the greatest bargains we ever offered! Made of best galvanized 24 gauge steel. Outside is finished in a rich sky blue enamel with bronze trimmings and hardwood edge. Priced only $8.
—Other larger sizes at $8.50, $9 and $10.



Low Down Enamel Steel Toilet Combination.... $11.50
Complete to floor—wonderful value.
Low Down Vitreous China Closet Combination..... $15.50
Special value—worth $22.50.
Big value in High Tank Toilet Combinations..... $10.00
Complete to floor—a bargain.

Special Bankrupt Stock of Kitchen Sinks.
All sizes—up from..... $1.00



Best Quality Porcelain Lavatories; every one guaranteed— $10 down to. $3.75

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Whiting Mead Co.
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Send me your 1915 Free Catalog of Building Material
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WHITING-MEAD COMPANY
9th and Maple Avenue LOS ANGELES

Sanger Adv. L.A.

Fancy Calif. flats, per lb ....13 c
Monterey Cheese .....10@13c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	29	28	27	27	27	27
Cal Cheese	12	12	12	12	12	12

DECIDUOUS FRUITS.

The local movement is active, and values are somewhat more steadily held than last week, though there is no particular upward tendency in most lines. Plums are stiffening a little, and a good many prunes are sold at fair prices. Ordinary lots of figs are lower, while choice stock is steady. Nectarines are coming in freely, and find ready sale at satisfactory prices. Apricots are about cleaned up. Peaches are plentiful and easy, though some varieties are well taken. Gravenstein apples hold up well, but Alexanders have dropped. Huckleberries and strawberries are easy, while other berries have picked up a little. A few casabas are arriving, and bring good prices. Cantaloupes are doing a little better, and watermelons show a wider range according to quality.

Huckleberries, lb ... 10 @12½c
Strawberries, chest ...1.50 @3.50
Raspberries, chest ...8.00 @10.00
Blackberries, chest .... 1.50@2.50
Plums, crate ..... 50 @ .90
Prunes ..... .75@1.00
Figs, bx., double layer.. 1.00@1.50
Nectarines, crate ..... .65@1.00
Pears, Bartlett, bx .....1.00@1.25
Other varieties ..... .75@1.25
Peaches, small box ....20 @40 c
Lugs .....65 @85 c
Apples, Grav., 4-tier... 1.00@1.10
4½ tier ..... .70@ .85
Alexander, 4-tier ..... .75@ .85
Casabas, doz. ..... @ 1.00
Cantaloupes, crate .... .90@1.25
Watermelons, loz ..... 1.00@3.50
Grapes, crate, Thompson
Seedless ..... .65@ .85
Malaga ..... .60@ .85
Fontainbleau ..... .30@ .50
Tokay, box ..... .40@ .60

DRIED FRUITS.

Dried fruit prices still show rather a wide range, with many factors of uncertainty in the outlook and widely divergent views in the trade. Apricots are quoted at a wider range, the top price being readily paid for first-class fruit in the better districts, while large sales have been made in other quarters at the inside figure. Figs are in demand and rather firm. Sales of ordinary white figs are reported at lower prices, but little can now be had under 3½c.; while some Calimyrnas are held at a sharp advance. Prunes are still stiffening up, with local packers quoting a slight advance, and there appears to be a good foreign demand for this fruit. Peaches also are finding more demand in England than usual, and it is believed by well-informed handlers that prices will show improvement before long. A good export business is also reported in raisins. The new York Journal of Commerce says:

"The total amount of prunes taken during the past week by foreign buyers out of New York market is 15,000 boxes. All the orders were filled for immediate shipment and a part of the supplies have already been loaded."

In spite of the renewed interest which is being shown from foreign quarters for old crop prunes, the spot market appears to be laboring under an easier tendency. Domestic orders are only received for small quantities and there are rumors in the market that quotations are being shaded in some quarters. The impression prevails that no one wants heavy supplies on hand at this season of the year. According to advices there is an exceptionally heavy demand for all varieties of old crop raisins for European shipment, and several large orders are reported to have been filled in the spot market during the past few days. An order was sold at the beginning of the week calling for 3,000 tons of old crop raisins. Orders are in the market for additional stocks at full market prices. Shipments have been heavy for Canadian orders, according to report yesterday, and further inquiry is being received from Dominion sources. The Associated Company, according to advices from the Coast received yesterday, is entirely out of both Thompson's seedless and seedless Sultanas and no more are available at any price.

The Coast market for 1915 pack Apricots maintain its strengthening tendency. The packers are apparently being forced to buy from the growers certain quantities of the crop at advanced prices in order to cover their short sales for fall shipments. Quotations are from 1c. to 1½c. above those which were being asked a short time ago, and the range of prices is wide, according to seller and quality."

(Prices to Growers.)

1915 crop.

Apricots, per lb .....5½ @8 c
Figs, white .....3 @3½c
Black .....2¼ @3 c
Calimyrna .....5 @5½c
Prunes .....3⅛ @3⅜c
Peaches .....2½ @3 c
Pears .....5 @8 c
Raisins (in sweatbox):
Loose Muscatels .....4 @4½c
Seedless Sultanas .....5 @6½c

(San Jose prices to growers, 1915 crop.)

Apricots, per lb. .....7 @8 c
Prunes, subject to dist ...3½ @3¾c
Peaches ..... 3 c
Pears .....5 @6½c

CITRUS FRUITS.

The eastern citrus markets are taking oranges and lemons at slightly higher prices, though lemons are still selling too low. At New York on Monday, August 9th, valencia oranges averaged from $3.75 to $5.45 per box, and lemons averaged from $2.10 to $2.60 per box. On the same day at Chicago, Valencia's averaged $4.25 to $4.75, and lemons $2.75 to $3.25 per box.

Shipments of oranges are going forward from California at the rate of forty cars daily and lemons nearly 30 cars. So far this season lemon shipments are largely in excess, and oranges about 300 cars less than last year. Prospects are for a smaller orange crop next season.

No further change in price at San Francisco is noted. Oranges move rather slowly locally, but there is quite a lively demand for grapefruit, and lemons are doing as well as usual at this season.

(Wholesale Prices, San Francisco.)

Oranges, Valencias, bx..$2.75@3.25
Grapefruit, seedless, bx. 2.50@3.00
Fancy ..... 3.00@3.50
Lemons, box ..... 1.50@3.50

NUTS.

Exchange prices are expected within a few weeks, but may be held back by uncertainty of shipping conditions, which makes it very difficult to judge the future of the market. Current quotations are little more than nominal, with very little business under way.

(Prices f. o. b. San Francisco.)

Almonds, 1915 crop:
Nonpareil 15½c
IXL 14½c
Ne Plus Ultra ..... 14 c
Drakes .....12½ @13 c
Languedocs .....11 @11½c
Walnuts:
Jumbo, lb ..... 19 c
No. 1 Softshell 16½c
Budded ..... 18 c
Ungraded ..... 8 @10 c
Manchurian ..... 6 @11 c

HONEY.

Arrivals have increased considerably in the last week, and with the more urgent requirements satisfied, prices show some reduction.

Water White, comb ...12 @13 c
Light Amber ..... 8 @10 c
Water White, extracted 5½ @ 6½c
Light Amber ..... 3½ @ 4½c
Dark ..... 3 @ 3 c

LIVE STOCK.

Young lambs show a further decline, and mutton also is easier, with good sized shipments coming in from various sections. Cattle and hogs remain fairly steady at the old prices.

(Prices at San Francisco.)

Steers, No. 1 ..... 6¼ @ 6½c
No. 2 ..... 6 @ 6¼c
Cows and Heifers, No. 1 5½ @ 5¾c
No. 2 ..... 5¼ @ 5½c
Bulls and stags ..... 4 @ 5 c
Calves: Light ..... 8 @ 8½c
Medium 7½c
Heavy ..... 6 @ 7 c
Hogs: Grain-fed:
200 to 300 lbs. .... 7 c

Almond Growers!

Write for our Free Booklet Giving Valuable Statistics.

CALIFORNIA ALMOND GROWERS' EXCHANGE

311 California Street, San Francisco, Cal.

100 to 200 lbs. 7½c
Prime Wethers ..... 6¼ @ 6½c
Ewes ..... 5 @ 5½c
Suckling lambs ..... 7 @ 7½c

DRESSED MEATS.

Steers .....10½ @11 c
Veals, large .....12½ @13 c
Small .....14 @15 c
Prime Wethers .....12 @13 c
Ewes .....11½ @12 c
Suckling lambs .....14½ @15 c
Hogs .....12 @12½c

WOOL.

The greater part of the spring clip has been disposed of, but some rather large shipments are still moving to the east, where the market remains fairly strong.

Humboldt & Mendocino ...18@27c
Wool, Sacramento Valley, lb 18@22c
Southern, year's staple ... 15@18c
Six months ..... 14@16c

HORSES.

Prices for light drafters, chunks and wagon horses have been marked up a little, while mules are quoted lower. The local market is very dull, and practically no attention is given to anything but drafters. Few horses are being offered here at present. The country market, however, is described as about normal. Dealers state that the war purchases have had no immediate effect on the market, as they are paying lower prices than the home trade would pay for desirable stock, and are simply cleaning up a lot of inferior horses for which there is little demand here.

(Approximate values at San Francisco, based on auction sales.)

Heavy drafters, 1700 lbs. and up .....$275@300
Light drafters, 1550 to 1650 lbs ..... 200@225
Chunks 1350 to 1500 lbs. 165@185
Wagon horses, 1050 to 1350 lbs. .....125@150
Green Mountain range horses, 950 to 1200 lbs 50@ 90
Farm workers ..... 60@ 75

MULES.

1200 lbs. and up .....200@225
1100 lbs.... .....175@200
1000 lbs. .....140@160
900 lbs. ..... 90@150

HIDES.

Values remain very firm at the prices last quoted, all offerings being quickly absorbed.

Heavy Steers, over 56 lbs .....16 @17½c
Medium .....16 @17½c
Light Steers under 48 lbs .....16 @18 c
H'vy Cows, over 50 lbs.16 @18 c
Light Cows,30 to 50 lbs.16 @18 c
Kip .....16 @18 c
Veal ..... 18 c
Calf ..... 18 c
Dry Hides .....27 @28 c
Dry Kip, 10 to 15 ...26 @27 c
Dry Veal, 5 to 10 ... 31 c
Dry Calf, 7 down ..... 31 c
Horse Hides—
Salt: Large $3.00
Medium 2.50
Small 1.00

HOPS.

Values continue fairly firm at the former level, and a good many sales have been closed, though the outlook is rather uncertain.

1915 crop, lb .....13@14c

SPECIAL DECIDUOUS FRUIT MARKETS.

By J. F. Nagle.

Shipments from the Sacramento river finish this week. Placer county points and the San Joaquin valley have cleaned up on Elbertas. There are a few varieties of late peaches yet to be shipped and what Bartlett pears go forward from now on will come from Placer county and El Dorado county and the Santa Clara valley.

Despite the fact that the Eastern peach shipments have continued heavy, especially from Arkansas and Oklahoma, during the past week, demand has been fairly active for California Elbertas at a price averaging 60c. delivered.

There has been considerable complaint from Eastern buyers on the arrival of California Bartletts, due to the quality and ripeness of the stock now arriving. This condition has affected the market and prices have not been satisfactory except on fancy stock. We look for an advanced market, however, on late Bartletts.

Several cars of Malaga grapes from Fresno have already arrived in the East but the majority of the stock has been green and not sugared. As the standardization law is in effect, the quality should show an improvement from now on. Tokays of the San Joaquin valley have just commenced to show color and shipments will begin to move about the first of September.

The following prices have ruled for the week:

New York.—Bartlett Pears, averaged $1.50; Wickson Plums, 92c.; German, $1.16; Diamond, $1.23; Kelsey, $1.27; Elberta Peaches, 60c.; Malaga Grapes, $1.14.

Chicago.—Diamond Plums, averaged $1.32; Wickson, $1.03; German, $1.35; Tragedy, $1.37; Burbank, 94c.; Bartlett Pears, $1.56; Malaga Grapes, $1.15; Thompson Seedless, $1.12; Crawford Peaches, 50c.; Tuscan, 75c.; Hale, 52c.; Elberta, 80c.

Boston.—Crawford Peaches, 42c.; Tuscan, 50c.; Elberta, 60c.; Wickson Plums, 72c.; German, $1.02; Tragedy, $1.25; Diamond, $1.12; Kelsey, 75c.; Malaga Grapes, $1.47; Bartlett Pears, $1.45.

Total shipments to date, 5411½ cars. Total shipments same date 1914, 6398¼.

Publisher's Dep't.

Advertising in the Rural Press is frequently as interesting and valuable to our readers as are the special articles which cost us effort and expense to secure. If any of our subscribers do not read the business announcements regularly they are not getting all of the value from the paper that they should. We will not knowingly accept an advertisement from a firm that does not treat its customers fairly or honestly, but in printing advertisements from about 200 people each week we may inadvertently get one now and then that may not be up to standard, but they do not last long in these columns. It is an accepted fact in business that advertised goods are the best goods, and readers who buy upon that principle will usually be in the right.

F. W. White of Elk Grove reports that he sold nearly $400 worth of purebred Berkshires to two men who came from a distance in answer to his classified ad. in Pacific Rural Press. J. K. Stewart of the same district is mad at us for accidentally omitting his classified liner the third time it should have appeared. The first ad., costing 30c., brought two men in a Ford from above Sacramento and they bought a young boar. The many answers to his ads make him anxious to have them appear regularly.

Little Flaxen-hair: "Father, it's raining." Father (somewhat annoyed by work in hand): "Well, let it rain." Little Flaxen-hair (timidly): "I was going to."



Killefer Bean Cutter

KILLEFER QUALITY

KILLEFER EFFICIENCY



A Bean Harvester is used only a few days each season, and we have found, after building various styles of Wheel Harvesters, that the rancher preferred a strong simply made Sled Cutter.

The work done by this tool cannot be excelled and is seldom equalled by any of the so-called Adjustable Harvesters on the market.

Extra Blades for all styles of Bean Harvesters are carried in stock.

The Killefer Manufacturing Company

2209-21 Santa Fe Avenue, Los Angeles, Cal.

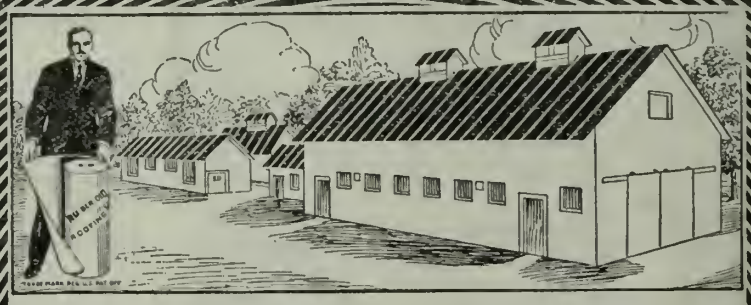
Standard Oil Company's (California)

ZEROLENE
OILS & GREASES

RED CROWN
GASOLINE

received highest honors at the Exposition. Zerolene was first in lubricating efficiency; Red Crown, first in carbureting qualities, in purity and uniformity.

Awarded
GOLD MEDALS
San Francisco 1915



For All Farm Buildings

You want roofs that are *permanently* waterproofed—roofs that will end your repair bills—roofs that cannot warp, rust, crack or leak. For such a roof use

Pronounced "RU" as in RUBY
RU-BER-OID ROOFING
COSTS MORE - WEARS LONGER

RU-BER-OID Roofing is waterproofed with a compound containing high-grade animal and vegetable substances. The felt is free from wood fibres and paper stock. It contains no coal tar or asphaltic oils.

RU-BER-OID roofs applied more than 20 years ago are still giving perfect service, and the same quality is sold today by the best dealers everywhere.

The colors of RU-BER-OID are permanent and attractive. Beautiful Colored RU-BER-OID (Ka-lor-oid). comes in Tile Red and Copper Green.

The U. S. Court of Appeals has enjoined imitators from using the word "Rubberoid or any similar name as the trade name or brand" of their roofing. The "Ru-ber-oid Man," shown above is on every roll of the genuine. If the Ru-ber-oid Man is not there, the roofing is *not* RU-BER-OID.

Farm Building Books Free

Illustrated books, valuable to every farmer, telling and showing how to roof or build all kinds of structures, will be sent free. Mail the coupon.

The Paraffine Paint Co.,
San Francisco, Cal.

Also manufacturers of Amiwud Wall Board and Ruberine Roof Paint.

Building Book Coupon

The Paraffine Paint Co., San Francisco.
Send me samples of RU-BER-OID and the books opposite which I mark X. I intend to roof a _____

- ☐ Roofing a Home
- ☐ Building a Poultry House
- ☐ Building a Bungalow
- ☐ Building a Barn
- ☐ Building Your Own Garage
- ☐ Covering Your Factory
- ☐ Artistic Roofs
- If a dealer, check here ☐

Name _____

Address _____

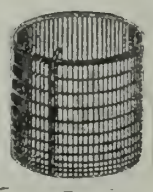


Redwood Tanks

Stock Tanks & Silos. Lumber direct from the forest. A tank 4x8 ft, $6.50; 5x3 ft., $7.50; 6x3 ft. $9.00; 8x3 ft. $12.75. All other sizes in stock and equally cheap. I sell direct to the consumer. Trays, Box Shook. You will save not less than 10 per cent by trading with me. Doors, Windows, Mouldings. 35 yrs. in this business.

B. F. WILSON STOCKTON, CAL.

REDWOOD TANKS
SILOS.
Water Troughs
Windmills, Frames, and Towers,
Steel and Wood.
Prices the lowest.
BROWN & DYSON,
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Vol. XC—No. 8 Forty-Fifth Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO AUGUST 21, 1915 LOS ANGELES

California State Library

Hog Growers' Opportunity in California.

California imports pork, and exports pork feed, though we have a more favorable climate for pork production and disease resistance than elsewhere in America. Pork production is the easiest of all livestock to start with, and increases fastest.

[Written for Pacific Rural Press.]

IF I WERE a grain or cattle farmer on a thousand acres or 10,000; if my present income promised sufficient to supply my reasonable wants, considering the habits of simple life fixed by past years of hard work; and if I did not care much about how posterity would make its living from the soil, I would hang onto my big grain and grazing acres and would not undertake new development along lines with which I might not be familiar; and would object to subdivision on my ranch.

But bye and bye, I would retire, and the boys would either allow the ranch to be sold or would divide it among themselves, or a subdivision company would probably make me an offer that would entice me to move to town.

Anyhow, that is the trend of the times. The number of farms over 100 acres increased till 1900, and have decreased since then, while those under 100 acres have increased rapidly from the start up to date. During the five decades, beginning in 1860, the number of farms of 50 to 100 acres increased from about 2500 in 1860 to nearly 11,000 in 1910. Those under 50 acres increased from 4275 to 43,139—1910.

Swine for Small Farms.—What are the operators of these small farms going to produce? Fruit would be fine if there were a dependable market for it. All signs point to a dependable market for all we can produce of meat.

But the new settlers, of whom we may expect more on our farms hereafter than heretofore, often have but little money to invest after improving their properties. That kind of meat, therefore, which the new settlers of the future can raise with the least capital and the quickest turnover, is the kind that must be raised, at least in their early years. Half a dozen considerations make the hog the most promising "mortgage lifter" and income getter of all.

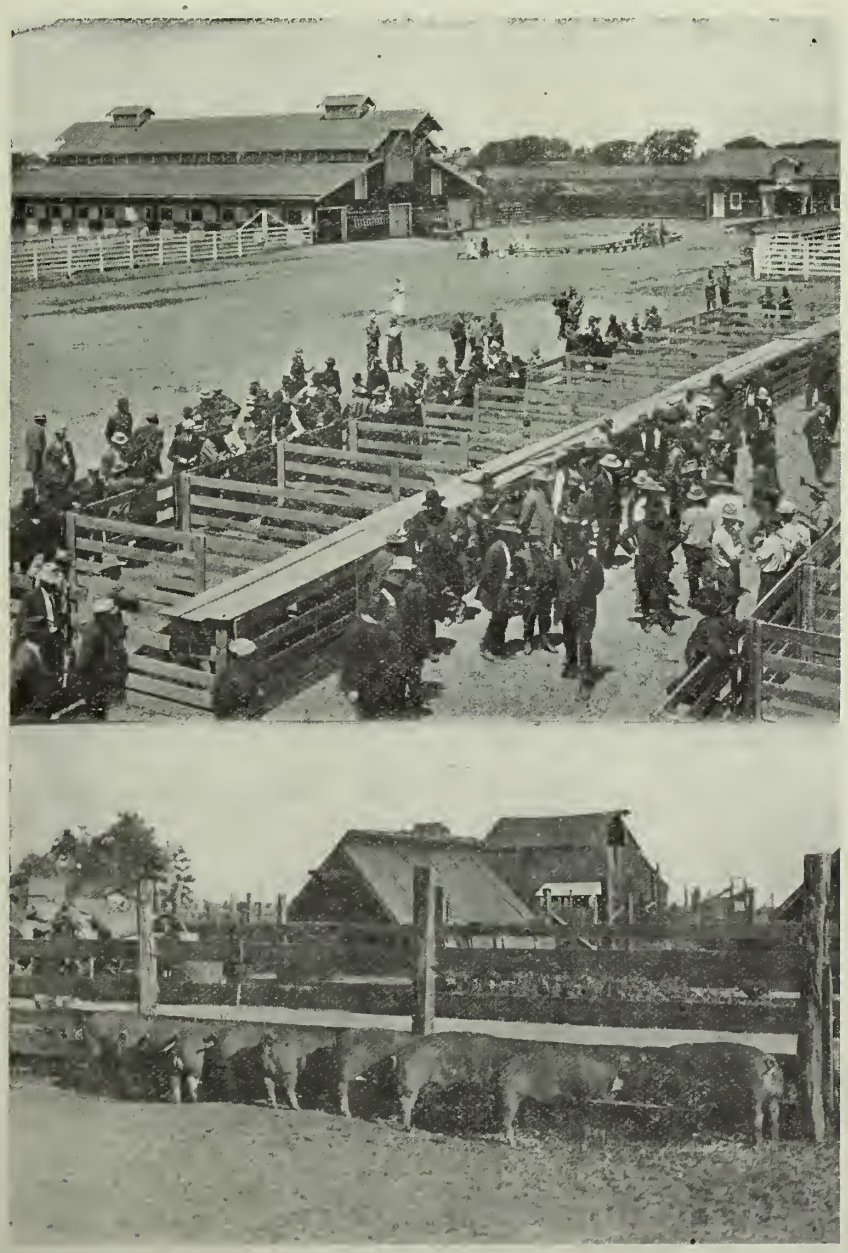
Cholera Unnecessary.—Cholera has been the greatest reason for the condition, as stated in California's Magazine, that "In Illinois there are 60 hogs to the square mile; California has 8"; and as W. S. Guilford states in his new book on swine raising, "We import over 2,000 carloads of hams, bacon, and other pork products from the East, and nearly 1500 cars of live hogs from Utah, Idaho, and other States every year," about 40 carloads of pork products, besides about 30 carloads of live hogs—not annually but weekly.

But cholera is unnecessary. It cannot begin on a farm without being brought from another place where it exists. One who cares whether his herd gets cholera or not, will keep newly-bought animals in a separate pen until they prove to be free of disease. He will use all efforts to keep people out of his pens if cholera exists in the community. He will keep his hogs in a disease-resistant condition by supplying them clean pens and water, balanced feed, shade in summer and shelter in winter. Above all, he will keep his hogs out of the irrigation ditches. He will favor laws compelling them to bury, or keep their hogs out of irrigation ditches, and compelling them to bury or burn their cholera-dead out of the reach of buzzards and other birds and animals. When cholera visits neighboring herds, he will get the State veterinarian to send a man down to vaccinate his herd, if the local veterinarian seems incompetent.

Thus he will be pretty well protected from introduction of the disease, and will be protected against it if it does get onto the place. The mild climate of California helps greatly because hogs do not crowd together in close quarters as they do in the cold eastern winters.

The future, in respect to cholera-prevention, is more promising than the past, on account of the State-wide campaign for cholera eradication. In this,

(Continued on page 179.)



WHITEHALL ESTATES SALE OF BROOD SOWS.

With purebred sires, high grade sows will make a good foundation for market stock. Many California farmers, however, have observed that it is well to buy at least one or two purebred gilts because the pigs will be as good or better than grade pigs for the market, and if properly registered, may sell at four times as much for breeding stock. The lower pleture shows what may be expected from purebreds.

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California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at 5 p. m., August 17, 1915.

STATIONS	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	0	.26	.14	66	54
Red Bluff	0	0	0	96	64
Sacramento	0	0	0	96	56
San Francisco	0	.01	.01	68	52
San Jose	0	0	.02	84	50
Fresno	0	0	0	100	60
Independence	0	.04	0	96	52
San Luis Obispo	0	.01	.03	84	52
Los Angeles	0	0	0	94	58
San Diego	0	0	0	76	60

THE WEEK

The Panama-Pacific is surely going some; it has passed the ten-million mark in attendance; it has half a million surplus on hand for running expenses; it has a new aviator scroll-sawing the sky, and this week there are actually seventy-three congresses, conventions and conferences in simultaneous session! Every stile-turner takes the choice of his way of up-lift—fire-works, gas, gasoline or oratorical hot-air, and there is enough of each for every one—even though many a day scores a hundred thousand choosers. In fact, it is easier to have your own way at the Exposition than it is in coming to it or in getting away from it. All routes of travel are thronged. We have been in the thick of some of it and never saw a more contented, better-natured multitude. It is clear that all transportation companies are not only doing their best with the tremendous traffic, but are doing much better than any one expected they could possibly do—and this is what makes the people happy and indulgent. Simply looking around enables one to appreciate what the State would be if its population were suddenly doubled, and most people we have talked with are simply agreeably excited over it. Nearly all agree that California will be all the better when it gets fuller of people.

At present we are getting chiefly the professional and leisure classes of Americans — the kinds that usually take summer vacations of more or less cost and duration. Those who have various harvest-activities placed upon them are, of course, too busy to move now. They will come later and, we believe, in becoming style, because we read that an address was delivered last week at the Fresno Commercial Club by C. L. Seagraves, colonization agent for the Santa Fe, urging immediate preparations to arrange entertainment for the Eastern farmers, who will be brought through California on excursion de luxe trains. The first of the excursion trains will leave Chicago October 14th. Long stops will be made in California towns to give the farmers an opportunity to see the country in automobiles.

And so the real people are still to come, and those who fain would weary of millionaires, professors and school-ma'ams should take heart and buy some more gasoline.

A Rural Credit Movement.

We are glad to know that S. W. Baker of Santa Rosa, vice-president of the California Cured Fruit Exchange, has undertaken a practical effort to rally producers for a concrete conference on the subject of rural credit in California. He has written an appeal to various local co-operative organizations of the State to appoint delegates to attend a representative meeting for discussion and action on the subject of credit, on fairer terms and at fairer rates of interest, to all properly organized associations of producers. Such a meeting it is proposed to hold, either as a part of the Fruit Growers' Convention at Visalia on the third week in November, or as a collateral assembly. If the State Horticultural Commissioner approves, it may be part of the convention. In any event the occasion is opportune, and an influential gathering should result. It will be remembered that the last legislature authorized the governor to appoint a commission of five to consider rural credit propositions and to report before October, 1916, plans which they consider practical and desirable for California. Such a commission may be appointed before the date of the Visalia meeting, and may use the meeting as a means of ascertaining the desires of the people on the subject. We have often stated that we apparently had all forms of interest manifested except the definite desires of the producers as to ways and means. It is of course unfortunate that those who are to be most helped in their work by fairer credit conditions and requirements should have least to say about it in this State. Our bankers have really had more to say about the justice and feasibility of destructive agricultural credit in this State than the farmers have, and the bankers have also stated that better conditions were obtainable. The non-technical journals of California, which represent the sentiments and attitudes of the general public, have also widely and warmly approved fairer credit to farm producers and abolition of exactions and discriminations which now exist. The present State administration has made the attainment of fair rural credit provisions one of its leading aims. The only silent party in the discussions of the last few years has been the farming class. We consider Mr. Baker's enterprise toward bringing producers to a declaration, the best which has been proposed. The managers of the scores of fruit-selling organizations know very well the difficulties which now exist in the financing of their clients and they can declare themselves in a very concrete and practical way.

What Will the Reserve Banks Do?

It would of course be a part of the duty of such a formal, delegated conference as Mr. Baker is trying to arrange to take due cognizance of what can be done through the National Reserve Bank system. The kind of credit which fruit associations mostly need is the short-term personal credit, and this would not be likely to be sought through the same channels as the long-term credits for development, land-manning, etc. The two kinds of credit are not at all in competition or conflict, and each has its opportunities and advocates. Those who are fearful lest farmers should be considered as wards of the Nation, and given special privileges will, of course, be anxious to see what farmers can do with the Reserve Banks—just as other people do things. We are interested to see that Herbert Myrick, who has put forth several plans for rural credit in the various journals which he publishes at the East, has now taken to exaltation of the farmers' opportunities for credit through the Reserve Banks for loans of several months' duration. In his Orange Judd Farmer, the following paragraphs appear:

"For the first time in history, the banks have no excuse for not accommodating producers to the limit. If they ignore the federal reserve system and strive to exact the uttermost toll from the marketing of crops, the banks do so at their peril.

"No longer may the bank say 'money is scarce, we can only let you have half as much as you want,' and charge an ungodly rate for it. Such a statement is not true. For the bank can indorse such note, send it to the federal reserve bank, and by return mail get back newly issued federal reserve notes (cash) for full face value of the paper thus rediscounted. The reserve bank charges only 4% to 5% for such rediscounting, so that if the farmer pays 5% or 6%, his local bank gets the difference for its handsome profit.

"The farmer or buyer need not rush to market his grain, stock or cotton in order to get cash with which to meet pressing debts, but can borrow upon same and thus be able to hold or sell at will. The result should be more gradual marketing, with steadier prices, and less of the wide fluctuations that benefit only speculators at expense of both producers and consumers."

What Will Our Reserve Bank Do?

That is, of course, another question. Mr Myrick's commendation of resort to Reserve Banks is probably limited to the central and Eastern types thereof. We have our own local questions, but still what they are doing at the East may ultimately affect our practice. Hitherto, our Pacific Coast Reserve Bank has, if we are not mistaken, found that we did not need any of Uncle Sam's four-per-cent money because the San Francisco banks had plenty of money in their vaults for which they would like to get four per cent, or even less—from the particular classes of borrowers whom they consider desirable. Of course, the fruit producers and other farmers are not among their favorites. As we have previously remarked, they like a handler better than a producer, because a handler knows how to stack up security better. No one can tell how mellow San Francisco and other bankers may become when producers of our great fruit and other staples get their peerless security into shape. It was said long ago that a life insurance company had no respect for a claimant unless he came into its concern, feet first; then they fell down and worshipped. It may be that way with bankers. If so, it becomes clear that it is up to our producers to register a great kick, and some heed may be paid to it—providing they get security out of their properly standardized and warehoused product, on the collective endorsement of their associations and general recognition of their actual responsibility and the regularity of their operations. When they do this, and

especially when they demonstrate their trustworthiness by a certain amount of reserve or surplus funds of their own, they may effectively demand to be treated as are other preferred creditors. This will all be indispensable to the proper condition for private loans or institutional loans or for the use of State funds at the same rate they are loaned to others who have the art of creating acceptable security. All such things will naturally be brought forward and discussed at the delegated conference proposed for November in Visalia. If not, then at some other time; for truly farmers never can get themselves into the position of most approved borrowers without some such a foundation.

When in Doubt, Take the Trick!

Sometimes our exhortations seem to excite our readers to action: sometimes they arouse tender consciences and only unsettled people, to wit:

"I notice that you are always boosting co-operation. Is not this a violation of the Sherman law? If it is a violation of the law for manufacturers of implements to unite for the purpose of economizing in the purchase of materials and in the selling of their produets, why is it not against the law for farmers to combine for the same purpose? Does not the action of each restrict competition? Is there one law for farmers and another for manufacturers?"

There has been effort to exempt farmers and laborers from the penalties of the Sherman law and it may have been urged by certain parties for political reasons, but probably, with most persons this effort, which has seemed to involve class-legislation, has really been an honest effort to get at the real equities in the case, which may belong to certain producers and not to others; or in certain conditions and situations, and not in others. It seems to us the whole legislation evinces a sincere desire on the part of the people to get at equity and justice; it has stumbled plenty, truly, but it will finally arrive at the point desired. It is a serious mistake to consider the Sherman law and the principles which it has aimed to enforce as against co-operation. It is against some phases and methods of co-operation; not against the beneficent principles which underlie co-operation. Co-operation is against injustice and about the only way by which injustice can be done away. Co-operation is the fundamental support of our political, religious, social and industrial life. It is the only force, known to us, by which agriculture can defend itself against wrong and secure justice in the distribution of the products of its labor and investment. If phases of it offend our moral sense, it is so much the worse for the methods; it is all the more reason why we should hold fast to the principle until the methods are made true to it.

It seems to us that our farmers should proceed resolutely toward effective co-operative organization. The thing to do now is to get it; if there are wrongs in it, they will be stricken out later, and this experience should make co-operation stronger because truer and more just to all men and interests which have rights to be secured. But to raise theoretical, and generally fanciful, objects to co-operation before it has been attained, is like an old bachelor laying down rules for the behavior of his offspring. Once upon a time there were two darkeys who went out in the dark of the moon. Rastus was in the coop and Sambo held the sack outside. "Say, Sambo," was hoarsely whispered through the dark of the coop-door, "am it right to lift dese chickens?" To which hoarse whisper came, "Rastus, dat am a great moral question; hand down a pullet; if it is wrong we make rep'ration afterwuds." We are aware that the story proves too much, as most stories do, for it admits chicken-stealing as a proper mode of experimental conduct toward the demonstration of a great principle. Let us hope, however, that "rep'ration" was amply made, and repentance also. If, then, co-operation places the farmer in the position of reaching for chickens which are not surely his, let him hand down a pullet just the same. The exact ownership of the poultry will be determined later.

Queries and Replies.

Querists must give name and address.

A Catch-Crop of Potatoes.

To the Editor: I have a small piece of ground on which the alfalfa was recently drowned out. I have thought of trying winter potatoes on it now and seed to grain after that. The soil is loose sand. Is the nitrogen on the alfalfa roots sufficient fertilizer or would you advise an additional application of barnyard manure? The land was irrigated July 20. After plowing and harrowing, do you think ground would be too wet for potatoes? What variety of potatoes do you consider best for this locality? People around here say there is no success whatever with potatoes.—W. E. C., Turlock.

When intelligent people, who have tried it, say that any crop is not a success, it is wise to proceed cautiously and test out the question on a small scale before putting in much time or money. In many places potatoes are condemned because they are planted too late—not giving the plant chance enough to make good growth before drouth and heat come on. If they get such a growth they often finish up a good crop. Your land ought to make potatoes if the moisture keeps right; but if it dries out when the plant ought to be growing well, or if it gets too wet when the tubers ought to be forming, it is not reasonable to expect much of it. Drowning out of alfalfa is a bad sign for potatoes unless you can catch in with them between the drouth and the wet. For this chance you need an early potato, to shorten the period of the required conditions, and Early Rose is the one to try with. Plant a small patch now and put in some more next month—irrigating the ground again, for it if you find it too dry, and plant some more after the rains begin. In this way you will find out what you can count on. The land does not need more manuring, probably. Remember, however, that if your land is likely to fill up with water during the next four months, your game is risky.

Alfalfa on Russian Thistle.

To the Editor: Is it a wise plan to sow alfalfa on land infested with "Russian thistle"? What is the most successful means of fighting this pest?—P. M. P., Oakdale.

There are several plants which are locally called "Russian thistle" in California, so we are not quite sure whether you have the true Russian (salsola) or not. When asking about weeds, it is always desirable to send enough for identification. Supposing you have the true one, the answer would be: the way to kill out the plant is to keep it from going to seed. It is an annual and therefore has no hold-over roots. It can therefore be killed out by frequent mowing or by herding sheep on it, for it is liked by stock when young. It is desirable to sprout as much of the seed as you can by early-fall heat moisture and clean the land by several diskings. Then plow deeply so as to bury more seed, work up the surface, and put on the alfalfa in February, or later, if your land is frosty. If the alfalfa gets ahead it will run out the weed all right.

Horse Beans and Beets for Hogs.

To the Editor: What are the feeding values of horse beans and beets for hogs, and can horse beans be raised successfully in the San Joaquin Valley in the winter on old alfalfa land? What care and cultivation do they need?—B. A. C., Empire.

All beans are good for hogs if fed in connection with other feeds. Beans and beets constitute a balanced ration and are theoretically good when fed together. Study the hog, and his appearance and behavior will tell you more about it. Horse beans are more hardy against frosts than beans usually are. Near the coast they make good winter growth. With you it will depend upon how sharp the frosts are in your particular place. Horse beans make large, tall plants, and should be grown in drills about two and a half feet apart for horse cultivation. Drop the seed thinly, for the plants ought to be eight or ten inches apart in good soil.

Sweet Pea Straw.

To the Editor: What is the best way of using sweet pea straw for fertilizer? What crop would best follow sweet peas? How can the green aphis be prevented from damaging a crop of sweet peas?—C., Pismo.

When thoroughly dry, as it comes from gathering a seed crop, the straw can be spread, disked to break it up, and plowed into a heavy soil as soon as there is rain enough to deeply wet the soil. The straw can be spread in the corral, tramped fine by the stock, and spread with other corral cleanings at the beginning of the rainy season. It may also be piled, wet down and reduced by composting with farm manure. This will make a rich manure for garden use. Sweet peas improve the land for any crop which it is profitable to grow in the locality; so far as we know, everything from grain to vegetables is better when following them. Pea aphis must be killed with a tobacco spray as soon as they appear. They are hard to handle if allowed to get headway. Therefore, the young plants must be closely watched and spraying done as soon as the pest is discovered.

Probably Red Spider.

To the Editor: What is the trouble with our dahlias, oleanders, sweet Williams, etc., that are spider-webbed, specially on buds and blossoms? We first guessed caterpillars, but there isn't one to be found, and as to spiders, we see only an occasional one. But the plants wilt, hang their heads and look sick.—Y., Bellota.

If the webs are small and spread over the surfaces, and not fine constructions for large insect-catching, they probably indicate the presence of "red-spider"—a mite, not easily seen without a magnifier. If this is the intruder, the leaf-surfaces are scarified and have lost their deep green and polish. Of course, either lack of water or presence of alkali would cause the plants to wilt, but if they wilt with roughened and lighter-colored leaf surfaces, it is probably red-spider. The cure is dusting with sulphur—as for vine mildew, or hosing the plants with a good water pressure. These mites thrive in heat and drouth, and they hate a bath like a hobo.

DUST your sweet corn with arsenate of lead and clear $12.75 more an acre. This is the advice of James W. McColloch, assistant entomologist in the Kansas State Agricultural College.

For six years the department of entomology of the college and experiment station has been studying the worm and has found that a large proportion of the eggs deposited in the summer are placed on the fresh corn silks. From these eggs the worms that injure the ears originate. The young larvae on hatching begin feeding on the silks and eat their way down into the ear. It is, therefore, possible to control much of the injury by keeping the silks sprayed in the silking period.

Powdered arsenate of lead has been found to be the most efficient poison. A 75 per cent mixture of arsenate of lead with air-slaked lime or land plaster is practically as good as the poison alone. The dust is shaken upon the silks from an ordinary cheese-cloth bag or flour sack, or applied with a dust spraying machine. Under ordinary weather conditions four or five applications at intervals of three or four days are sufficient.

Cheaper Oranges---Cheaper Labor.

[Extracts from address by Charles C. Chapman, Fullerton.]

When I came to California some 20 years ago, 4000 cars of oranges were shipped. A car at that time contained about 15 per cent less fruit than now. The shipments soon, however, increased to 6,000 cars, while at the end of four years more we were sending 24,000 cars annually, an increase of 400 per cent. This sudden and tremendous expansion proved somewhat trying for a time, but improved marketing methods were devised and new markets found by the aid of a higher tariff, one that proved to be really protective; and soon we were readily selling 35,000 cars. We must not necessarily expect that we can now even double the present output as easily as it was quadrupled then. We can materially increase the shipments, but a too sudden or big jump might for a time put a crimp in our ambitions. We must not feel that it will be an easy task to market our enormously increased production in competition with the greatly increased shipments from Florida and from foreign countries. The tariff wall that so splendidly protected us during the years when the industry was expanding so rapidly, has been razed; so that in this respect, we are at a great disadvantage.

During these former years, very much more radical and important improvements were made in the methods of packing and marketing than we have reason to look for in the future. These were important factors in helping to expand. Some betterment in both handling and marketing will be made, but nothing startling need be anticipated. Yet some serious marketing problems will have to be met if we are to profitably market our ever-increasing crop in competition with the large output from foreign countries, without the protection we have heretofore enjoyed. The prospect for an early restoration of this protection is not bright.

Wages to be Reduced.—I think the chief item in readjustment will be the reduction of the cost of labor of culture and packing. Every employer of labor shrinks from an attempt to reduce wages. It is always unsatisfactory to do so. But the poorly paid foreign labor must be met by low-priced labor here, if our politicians refuse to grant the necessary tariff protection.

Ultimately, I think that unless we are adequately protected, the fruit industry will under one condition or another go into the hands of laborers such as chiefly prevail in southern Europe and Japan. They may be employed by growers and packing houses or they may buy or lease our orchards and grow and handle the fruit. In this way it can undoubtedly be done at very much less cost than under the present system.

Need Protection Soon.—Adequate protection must be secured before this evolution, this transference to foreign management and foreign labor, is too fully developed. When once this transfer has been made, when the industry has largely gotten into the hands of these people, we will then not particularly care whether protection is given or not for it will not be so greatly needed, and, therefore, such strenuous efforts to secure it will not be made as have been made in the past. What this will mean, not only to the orange business in which we have taken such delight and which has made California famous, but to our own fair Southland, I leave you to imagine. The picture is too distasteful for me to attempt to draw.

But the investment of $200,000,000 in the orange industry to grow and handle the crops from about 200,000 acres, involving about 10,000 individual growers, will not be permitted to suffer permanently from any cause over which man may have control.

SUGAR PRUNE ON PEACH.

To the Editor: Referring to inquiry about sugar prunes on peach, I had a little experience when the sugar prune was first introduced. The buds took well and made a very satisfactory growth the first year, but only about 10 to 20 per cent made a good union; the balance would break off at the bud. To get sugar prune on peach, the peach should first be budded or grafted to French prune, and then re-worked to sugar prune the following year.

Lancaster. **T. J. True.**

Indications point to an early maturity of the Butte county orange crop; and the outlook for a prosperous year for the growers in that section is very good.

How to Stop Dried Fruit Speculation.

Justice Chipman gives a ringing exhortation. How can peach growers afford to neglect organization to secure what rightly belongs to them and to protect their livelihood? What can we do for them? What will they do for themselves?

To the Editor: In your journal of July 24th is an article with the above caption, written by Mr. G. E. Merrill of San Jose, which starts a ball that should be kept rolling until its accelerated force brings the dried fruit speculator to his knees. I beg the privilege of using your columns to give further momentum to Mr. Merrill's protest.

I saw in the newspapers recently a statement that last year Mr. Wm. Grant, a fruit grower of Chico, was offered 2½ cents a pound for his thirty tons of dried peaches. Many growers were obliged to sell at that figure. He shipped his fruit in sacks to an interior town in Minnesota, and there personally disposed of it in the neighborhood to consumers at nine cents a pound. He found the grocers retailing dried peaches at 15 to 18 cents per pound. Mr. Grant paid all his expenses from the proceeds of his fruit and had left five cents per pound for his thirty tons.

I mention this instance to show that the speculators who go about the country representing that the Eastern market will not justify a living price here are not speaking the truth. We know that the consumer pays a price that will warrant the payment here to the grower of at least six cents, and often more. The fact is that the dried peach market East will take just as many at five and six cents a pound to the grower as at 2½ or 3 cents..

Inquiry among the retail grocers in the consuming States shows that the price paid here to growers is ridiculously low, and is in a large degree brought about by speculators who start in early to make contracts, and for their own safety, and greater profit, they beat down the price to the lowest possible point. The fact that sales are made at low prices soon becomes known at the Eastern markets, and tends to establish a price for the season. It costs about 2½ cents per pound to pick and dry peaches. Obviously we must cease growing peaches to be dried if the buyer and packer keep up this ruinous policy. The prune grower has a wider market, and does not suffer so much from the practices of the speculator and packer as the peach grower.

What we need is some sort of organization among peach growers by which, as Mr. Merrill suggests, 75 per cent at least of the growers will abstain from making contracts until market conditions and the supply are well understood. I would go further and fix a minimum price—say 5 cents—and that no dried peaches should be sold for less. Mr. Grant's experience shows that the prevailing system—if it can be called a system—of handling our dried peach crop is simply rotten. I commend the subject to the peach growers of the State. **N. P. Chipman.**

Sacramento.

APHIDS GET COMMON VETCH.

[Written for Pacific Rural Press.]

Common vetch has been tried quite thoroughly, especially in the southern part of the State, and has been found wanting for several reasons. One of these is the fact that the aphids kill it down before it can make much growth. Canada field peas are in about the same class, but the newly introduced purple vetch with which the Citrus Experiment Station at Riverside has been experimenting for two or three seasons, grows so fast during the winter time that it keeps ahead of the aphis.

This was strikingly shown early in March at the Limoneira Ranch at Santa Paula, where they have grown about 300 acres of the purple vetch during the past season. While the aphis could be seen thick on many of the growing tips of the purple vetch, it had all made so much growth that if pulled up erect it would reach nearly shoulder high, and a large part of it was green and vigorously growing. The older portions of the stem, however, in the worst infested places formed a dense mat of deadened stalks spread on the ground. This will make first-class humus and it contains a considerable percentage of nitrogen which will be readily available for the use of the trees when it has decomposed.

If the aphids should finally kill it off, it will be so late that the mallow and other weeds will be coming on to furnish a large additional amount of organic matter to be plowed under for humus.

The sections in the Limoneira Ranch where common vetch was grown had become raggedly grown with non-leguminous weeds, because most of the vetch was killed some time ago. It is only in exceptional cases that it obtained a growth of as much as two feet.

The important point in planting the purple vetch is to get it in early in September. It was sowed at the rate of sixty to seventy pounds per acre in the Limoneira Ranch from the first to the middle of Sept., and its advantage in out-distancing the aphis is noticed on the earlier planted areas. Seed for planting is scarce and hard to locate, so early arrangements for a supply should be made. It is mostly grown in Oregon, but last season the Limoneira people got the bulk of the supply.

The farmers of the Orland Farm Center are considering the feasibility of constructing, in co-operation with the U. S. Reclamation Service, an electric transmission line from the East Park Reservoir to the rural district around Orland. Sufficient energy can be controlled, should this plan be carried out, to furnish power, light, and heat for the town of Orland and the entire rural district surrounding.

The shipping of Thompson Seedless grapes from Sutter county has commenced, those from Sutter City being the first to leave.

The first carload of grapes left Livingston on Aug. 11 for the East.

Sulphuring for Vine Mildew.

It has been a bad year for mildew because of weather conditions; also because sulphuring is not properly done. If the subject is better understood, this need not happen.

To the Editor: There has been considerable mildew in vineyards here this season. Some people say the sulphur used has not been good, so I would like to know the quality of the two accompanying samples. Also, will sulphur lose strength by being kept over from one year to another, or by lying in the hot sun two or three weeks? How long would it do good after applying in a climate like Lodi, say around the fourth of July?—P. A., Lodi.

[Of the two samples sent, one is sublimated, the other is finely ground, and both are suitable for vine sulphuring. The following discussion of mildew-fighting by Prof. F. T. Bioletti is timely:]

Vine Mildew in 1915.

The mildew, powdery mildew or oidium of the vine, to mention its most common aliases, has been more prevalent and destructive this year than perhaps ever before in the interior valleys.

The Agricultural College has made some experiments and observations during the present season that should be of interest to those vine-growers who have suffered loss from this disease. While little or nothing useful can be done at the present season it is perhaps wise, while the damage is evident, to point out what seem the best methods of control.

The long accepted method of control is to dust the vines with sulphur during the growing season. Some growers state that they find this method useless or only partially effective. They instance cases where the vineyard has been sulphured five or six times without saving the crop from serious injury. An answer to this is that vineyards where the conditions are apparently identical have been saved completely by three sulphurings. They state further that serious injury has occurred in vineyards where 50, 100 and even 150 lbs. of sulphur per acre have been used. In answer to this, it can be shown that other similar vineyards have been protected perfectly by the use of 20, 15 and even 10 lbs. of sulphur per acre.

If the facts are correctly stated on both sides, they indicate that in some vineyards mildew is completely controlled by sulphuring at an expense of 50c to $1.50 per acre, and that in others, apparently similiar, the expenditure of from $2 to $5 per acre for sulphuring does little good.

The cause of this difference in results appears to lie in differences in the time and method of applying the sulphur. In nearly all cases examined in which sulphur failed to control the disease the first sulphuring was done late in the season. In most cases examined in which sulphur was successful the first sulphuring was done early. In some cases the cause of failure appeared to be imperfect distribution of the sulphur. Sulphur of sufficiently good quality seemed to have been used in all cases.

The recommendations which it seems safe to make now with regard to sulphuring next year are:

1. **Sulphur the vines early.** This means when the foliage is sparse; when it is possible to see daylight through every part of the vine; when it is still possible for a bee to fly between any two leaves without touching them. This will be when the shoots are not over 8 to 10 inches long.

At this time a cloud of sulphur, passing through the vine, will leave a particle on every minute part of the surface. Later the older leaves will have grown so that many surfaces will touch. If the first sulphuring is deferred, therefore, many areas of surface will escape the sulphur and furnish places where the mildew can live and produce spores to infect the new growth.

This first sulphuring should be done, if possible, in warm, dry, still weather. If such weather is not supplied by the Weather Bureaus, sulphur just the same. If the weather is very bad, resulphur in a week or ten days. These two sulphurings will together cost only half as much as a single sulphuring in July and be much more effective.

2. **Sulphur the second time at or before blossoming.** By this time the foliage will be dense in some parts; but these parts consist of the oldest leaves which have already been covered and protected by the first sulphuring.

3. **Sulphur the third time when the grapes are as large as buckshot.** In vineyards not usually much subject to mildew this sulphuring should be omitted. Later on more sulphurings will rarely be needed if these three are properly applied. For these late sulphurings it is usually best to wait until mildew appears.

4. **Do not wait until mildew appears** for the first two or three sulphurings. Perfect control is possible only by preventive treatment. The idea in sulphuring should not be simply to kill the mildew. It should be to prevent its growth, multiplication and the production of spores. If we wait until mildew is found on the vines control is impossible and even partial control is more difficult and expensive.

5. **In the first two sulphurings do not miss a single leaf on a single vine.** This can be done with 2 to 8 lbs. of sulphur per acre, according to the size of the vine, if we use an efficient knapsack dust sprayer. With other means of distribution more will be necessary.

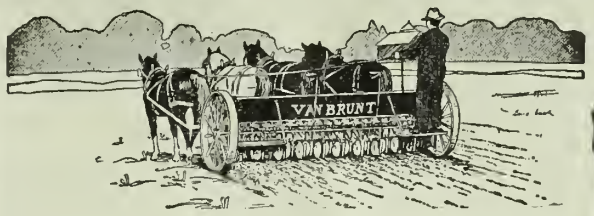
6. **Use only finely divided sulphur.** Coarse sulphur does not float in the air well, does not attach itself readily to the surfaces of the leaves and canes, and is easily shaken off by the wind or washed off by the rain. All the sulphur sent in by growers for examination this year was fair or good.

In short, to control the mildew of the vine, sulphur early, distribute the sulphur perfectly and use fine sulphur.

Comparative tests with other remedies showed that winter treatments are useless and other spring and summer treatments inferior to sulphuring. Some liquid sprays are recommended on the theory that they will control the mildew at the same time as the vine-hopper, the grape-root worm and similar pests. This is dangerous doctrine as it leads to deferring treatment to so late in the season that control of the mildew has become possible.

June Valencias sold by the Villa Park Orchards Association of Orange county brought $41,530.10 to the growers, an exceptionally good price.

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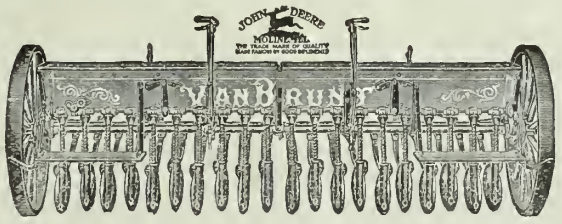
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Home Canning: Fruits and Vegetables--VIII.

[Written for Pacific Rural Press by Prof. W. V. Cruess, Univ. of Cal.]

RECIPES FOR FRUIT JUICES.

Bearing in mind the general discussion of last week, the following outlines of methods suitable for different juices may prove useful:

Red Grape Juice.—Choose grapes with "tart" taste and good color. Any well colored wine grape or such grapes as Concord or Isabella or mixtures of two varieties may be chosen: e. g., Muscat (white) for flavor, mixed with a red wine grape for color, make a good combination. Crush and remove stems. Heat in double boiler to 120 degrees F. Remove from stove and let stand in double boiler about six hours. Press through cheesecloth and let it stand twenty-four hours in a cool place. Draw off from sediment. Bottle. Cap or cork bottles. Pasteurize at 165 degrees F. in bottle as directed under "Pasteurization."

White Grape Juice.—Use white grapes of good flavor and "tart" taste; for example, Muscat grapes that are not too ripe. Crush and press out the juice without heating the crushed grapes. Let the juice stand over night in a cool place. Pour off settled juice and pasteurize in bottles at 165 degrees F. If the juice settles clear after pasteurizing, it may be decanted from the sediment, rebottled, and pasteurized. The beaten white of one or two eggs per gallon added before heating often aids in clearing.

Loganberry and Blackberry Juice.—Crush thoroughly and press out juice through several thicknesses of cheesecloth. If the crushed fruit is first heated to 130 degrees F. in a double boiler it may be pressed more readily. Add enough sugar so that when juice is diluted one-half with water, it will make a pleasing drink. Usually about 12 oz. sugar per gallon, i. e., roughly about three-fourths of a pint of sugar per gallon, will be about right. Bottle without dilution after sweetening, and pasteurize at 165 degrees F. Loganberry juice is too sour when bottled unsweetened, and seems to make the most pleasing beverage when sweetened before pasteurizing and diluted after bottle is opened. It has a very rich color and strong berry flavor; it is therefore very useful in punches, etc.

Currant, Strawberry, Raspberry, and Other Berry Juices are best extracted by heating the crushed fruits to about 130 degrees F. and pressing hot. Most of these juices must be sweetened to taste before pasteurizing at 165 degrees F.

Apricots and Peaches give a thick gummy juice that is not very satisfactory in appearance. The juice may be extracted by carefully warming the crushed fruit to about 130 degrees F. and pressing hot through several thickness of cheesecloth. The juice may be bottled without sweetening and pasteurized at 165 degrees F.

Apple Juice.—Choose rather sour apples of good flavor. Crush in a meat chopper or by other convenient means and press through strong cloth. Some form of press will be desirable. If the apples are clean and the weather cool, the juice may be safely allowed to settle over night. It should then be separated from the sediment, bottled, and pasteurized at 165 degrees F. If the juice settles well after pasteurizing, it may be poured from the sediment, rebottled and repasteurized, if so desired. However, the small particles of pulp seem to carry a great deal of the apple flavor and the clear juice is not so well flavored as the cloudy juice in most cases.

Orange Juice.—Choose thoroughly ripe oranges well after start of season—oranges of the first part of the season will give a bitter juice. Cut in half and extract juice. Strain out coarse particles of pulp. Bottle and pasteurize at 165 degrees F. A mixture of orange and lemon juice as indicated below is more satisfactory than plain orange juice.

Orange-Lemon Juice.—Cut oranges and lemons in half and extract juice. Blend the juice in ratio of juice from 12 oranges to about 4 lemons. Add sugar to taste. Bottle and pasteurize at 165 degrees F. The acidity of the lemon seems to protect the orange flavor to some degree against deterioration in pasteurizing.

Lemon Juice.—Press out juice. Add sugar so that when diluted to taste, a pleasing lemonade results without any further addition of sugar. This will have to be determined by trial. Bottle and pasteurize at 165 degrees F. This juice is diluted before use.

Pomelo Juice.—Cut fruit in half and extract juice. Add about 22 oz. sugar per gallon. Strain out coarse pulp. Bottle and pasteurize at 165 degrees F. in bottle.

Pomelo Orange Juice.—Blend equal quantities of each. Sweeten with 12 oz. sugar per gallon and pasteurize at 165 degrees F. This gives a bitter juice of pleasing flavor. Pomelo juice retains its flavor better than orange or lemon juices do.

REMOVING BITTERNESS FROM OLIVE OIL.

H. J. Baade, Farm Adviser of Napa County, recently wrote us concerning removing a bitter taste from olive oil. The matter was taken up by Professor Bioletti, who comments as follows:

"The bitter taste in olive oil so far as it has come under our observation, appears to be due to the natural bitter principle of the olive and this is soluble in water. It can therefore be removed by washing with pure water. Before doing this on a large amount of oil, make a test as follows:

Put equal quantities of the oil and water in a bottle, filling the bottle only above ¾ full. Shake the oil and water up together thoroughly and then let stand for 24 hours until the oil separates. The oil can then be syphoned off and tasted. One treatment may remove the bitterness, though sometimes two or three are necessary. This will show Mr. Smith whether washing will remove the trouble and how much washing is necessary. If there is a large amount of oil to treat it would probably be best to mix the oil and water by pouring or pumping them together from one vessel to another.

It might also be possible to remove the bitterness by the sprinkling method which is used for clearing oil. In this method the oil is placed in a vat of convenient size, and preferably tall in comparison to its width, and the water is then applied in the form of a fine spray on top. The water sinking through the oil clears it and takes up the bitterness. When sufficient water is accumulated at the bottom of the tank it can be drawn off and the process continued until the bitterness disappears. Of course, which ever method is used the water is almost certain to be taken up by the oil."

BEANS, BACTERIA AND PEPPERS.

To the Editor: We are growing a few commercial varieties of beans. The weevil is a factor in the industry here. We have been told to plant after May 10 and the crop will be immune from them. We have done so and will watch the results. However, is there any way for the layman to examine them and determine if they are affected? Also, is the inoculation of the soil with bacteria fixing preparations of any benefit? How many years are required to fix a strain of hybrid peppers?—J. S. P., Norwalk.

[The weevil deposits its eggs on the bean pod while green. The larva works its way into the pod and into the bean while very small, and the entrance apertures grow over and disappear. The larva lives its life inside the bean and makes no visible sign until it cuts its way out of the dry bean. We know no way to detect its presence until it approaches maturity. If the insects are known to be present the beans should be fumigated with carbon bisulphid before storing. If bacteria are not naturally present inoculation is of great benefit. Hybrid peppers must be grown and selected until old forms disappear. We do not know how long it will take.—Editors.]

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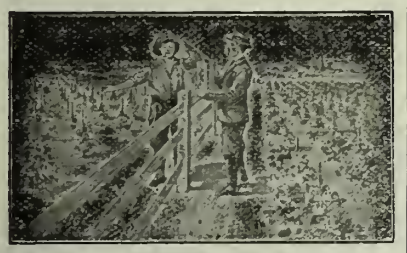
Ridding Farm of Diabroticas and Pests.

To the Editor: A. K. T., Sacramento, can keep the diabroticas off her beans by spraying them with a solution of creolin, one tablespoonful to a gallon of water, as they do not like the smell of it and will avoid any plant sprayed with it. I tried arsenate of lead, but it neither killed them nor drove them away. I then added creolin to the lead spray, but it precipitates the lead. I therefore use the creolin alone. I kept them off lima beans and melons with creolin. The leaves were so badly eaten away that I thought they would never recover but they did and are making a splendid growth now.

Blue Jays.—I think your correspondent, Mr. Sirelow, will find that the jay is the worst fruit thief in the country bar none. Linnets are bad enough, but jays are infinitely worse and will stay around the orchard as long as a piece of fruit hangs on the trees. Blue jays and linnets are the most destructive birds that the fruit grower has to deal with. Robins attack cherries, but as a rule leave other fruits alone. I tried the plan of poisoning oranges, poisoned water and potato scarecrows. Neither killed or scared a single bird. After they had destroyed the cherries and started on the apricots I concluded to try the plan by which I got rid of the rats, viz.: poison the fruit they had damaged, and in a few days I got over 100 of them and saved my fruit. To prevent accidents I hung notices in the orchard and tacked one on the entrance gate, notifying people not to eat any damaged fruit as it might be poisoned with strychnine. In poisoning gophers I find that a piece of stiff cardboard 6 or 8 inches long and 1½ inches wide with the end turned up at the corners will hold the siruped bait as well as a spoon. The gophers usually chew the cardboard also as well as the beans, so that I now mix a little powdered strychnine with the sirup.

San Jose. **Sam'l Haigh.**

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THE CALIFORNIA RED LINNET.

To the Editor: I had a little dispute the other day with my neighbor about the merits of the "red finch" or so-called "red linnet." He said these birds did a lot of good by destroying very many insects, etc. I claimed that they were seed-eating birds and therefore did more harm than good by destroying many dollars' worth of fruit. I told him these finches fed their young in same manner as pigeons do. Please give me full information about those birds. Was I right?—F. H. C., Corning.

[Answered by H. C. Bryant, University of California.]

[The general opinion of your correspondent regarding the linnet is true. The linnet, or house finch, as it is sometimes called, belongs to the sparrow family, and is a typical seed-eater. In many places in the State this bird is very destructive to both buds and fruit—in fact, it can be called the worst bird pest of the fruit grower of California.

In spite of the fact that this bird often damages fruit, there are several things which can be said in its favor. In many districts, fruit is not grown to any extent and depredations by the linnet are unknown. Many people in these sections therefore very naturally frown upon any attempt to destroy this bird, which they find a seed-eater and a beautiful singer. A full report as to the exact food of this bird can be found in the Biological Survey Bulletin, No. 30, published by the United States Department of Agriculture.

In answer to the second inquiry as to the manner in which the young are fed, let me state that the nestlings are fed very largely on regurgitated food. Parent birds during the breeding season are often found with partly digested food (mainly green seeds) in the gullet.]

SUCCESS WITH GOPHERS.

To the Editor: Gophers are a great pest in this part of the State. They are not bothering me, and I think it is because I placed galvanized metal screening about two feet deep in the ground. As gophers always start their holes underground, it is unnecessary to have any obstruction above. After using poisoned wheat, according to directions, for a few days their depredations on the inside ceased.—G. C. A., San Francisco.

[We presume you mean you put the screening around the area you desired to protect. Obstructions above ground are advised, because gophers, especially when mating, do sometimes take a run in the night over the surface.—Editors.]

The minimum price of 75 cents per box for "Standard" and "Fancy" Pajaro Valley Belleflowers was fixed by the Executive Board of the Watsonville Apple Distributors at a recent meeting.

EGYPTIAN VS. CORN FOR SILAGE.

To the Editor: Will you be kind enough to advise me at once on the following questions which I am very anxious to know about as soon as possible? Does brown Egyptian Corn make good silage? What is its feeding value compared to yellow corn? When should it be cut for silage?—K. B., Biggs.

[Regarding Egyptian Corn for silage, will say that in our opinion you can make good silage from this crop if it is sliced at the proper time. The time of cutting is of importance in making good silage however.

Experiments carried on in Kansas show that the crop should be practically matured; that in the seed should be matured. At that time the stalk is still filled with sap and will make good silage. If put in too green it will make sour silage. If it dries out too much sufficient water should be added to cause it to pack well.

From reports we have received from California growers, the siloing of the sorghums for dairy cow feed has not been entirely satisfactory. This we believe is due primarily to the fact that it was cut while too green for silage purposes.

In experiments carried on in Kansas the average acidity for three kinds of silage was: corn 2.03 per cent, cane 1.46 per cent and kafir 1.43 per cent. Egyptian corn and kafir would show practically the same result although the same experiment shows kafir silage slightly less valuable as dairy cow feed than Indian corn silage.

There is no question but that the greater yield of kafir to the acre offsets the slight increase in feeding value obtained from corn silage.

From this we should judge that your Egyptian corn, if siloed at the proper stage, should be practically as valuable as Indian corn.—Editors.]

FERTILIZING QUALITY OF DRY VETCH LEAVES.

To the Editor: Will the leaves (dry) that have shattered from vetch and fallen in the stubble, contain the same fertilizing properties if plowed under as a like number of green leaves?—H. I. B., Fallon, Nevada.

[They would contain the same fertilizing properties. Whether they would contain as much (allowing for water in green tissue) might be a question to be determined by analysis, but they are all right in quality. This is practically shown by the fertilizing effect demonstrated to belong to alfalfa hay and by the mold formation by dry leaves of forest trees, etc.—Editors.]

PEACHES DO WELL IN NEVADA.

To the Editor: A large show window in Reno, Nevada, has just been decorated with a lot of peaches which we believe are some of the best ever grown in the United States.

These peaches were brought in by Dr. C. F. Moore, from C. E. Swingle ranch five miles southeast of Hazen. These peaches go to show the possibilities of the Truckee-Carson project in the way of growing fruit.

Seven years ago, Mr. Swingle bought and began developing his ranch. He has growing cherries, almonds and Concord grapes which rank among the finest grown anywhere.

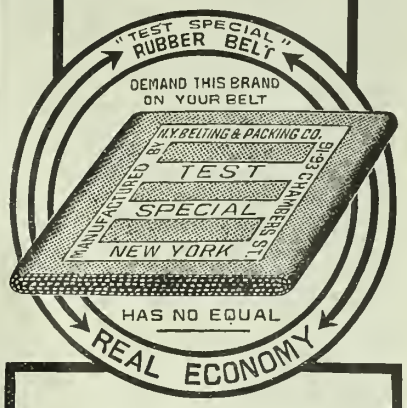
The Peaches on exhibit are of the Illinois May, Lee Cling, Eureka and Alton varieties and are simply delicious. **Chas. F. Barnum.**

Reno, Nev. Aug. 4.

Farm Adviser Searles of Yolo county reports making 111 visits during July. The control of the red spider, the hay crop, apricot irrigation and boys' agricultural clubs received special attention.

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Mechanical Power on the Farm.

ENGINE MAKES ALFALFA OASES.

[Written for Pacific Rural Press.]

Three irrigations per cutting of alfalfa, and five cuttings per season, costs A. H. Kloss of Sacramento county 750 gallons of distillate at 7 cents per gallon by contract, and 25 gallons lubricating oil at $8.50, for 10 acres per season. On Aug. 6, Mr. Kloss had some of the finest knee-deep, thick-standing alfalfa on part of his field, ready to cut the second time, though sown only last March. The fine growth was due to the combination of warm climate, rich soil underlaid by sand about 14 feet deep, and plenty of water. The pumping is done by a 10 h. p. International engine belt connected to a 5-inch centrifugal pump in a pit 10 or 12 feet deep. A built-up ditch across the center of the field empties into the checks on both sides through six-inch terra cotta tiles, which are closed by tight-fitting galvanized caps. Gophers work around the tiles, says Mr. Kloss, and there is much trouble with washouts. He would prefer the corrugated galvanized pipes with sliding gates and a sheet of metal to face the water and prevent washouts, which system is in use on his brother Adolph's ranch nearby. The latter has a 15 h.p. International engine and a 6-inch Byron-Jackson centrifugal, over a well 90 feet deep in which the water comes within 20 feet of the surface with continuous running. The former's well is 75 feet deep. If any water is standing on the checks 24 hours after irrigation, drainage gates are opened and all the water runs off. If the weather were hot the alfalfa in standing water would scald.

"My pulleys aren't adjusted right for maximum efficiency," as was evident from the stream being thrown. An 18-inch pulley on the engine will be replaced by a 20-inch pulley to connect with the one 10 inches in diameter on the pump.

PUMPS WITH OLD TRACTOR.

[Written for Pacific Rural Press.]

The old 45 h.p. Mogul tractor belonging to Andrew Johnson of Sacramento county and operated by Oscar Melby, is worn so that its traction days are over; but now keeps lonely vigil over a forty-acre alfalfa field in the midst of which is a well for irrigation. A belt from the pulley wheel of the tractor runs diagonally to the 7-inch centrifugal pump in a concrete pit 10 feet deep. The whole outfit is too big for the well, because the tractor must run on one cylinder only, to avoid throwing all the water out of the well. Under average conditions it requires five days to irrigate the place. Two irrigations are given per cutting. A 15 hour day requires about 35 gallons of distillate.

INEXPENSIVE COTTAGE VENTILATION.

[Written for Pacific Rural Press.]

A cool inexpensive summer cottage is described by J. B. Francis of Placer county. It is built in rectangular form with a porch on each of the long sides. But the porch roofs lack 18 or 20 inches of reaching the broad eaves, under which are four transoms per room. The ceiling is solid, the ventilation under the eaves keeping the room remarkably cool. The attic has a ventilator to let out the air at night that has been warmed up during he day.

BIG CONCRETE ENGINE FOUNDATION.

[Written for Pacific Rural Press.]

"My well can't keep the pump busy, but that's all right," says J. H. Castello of Sacramento county. "The longer the water stays on the ground the deeper it goes and the better for the alfalfa."

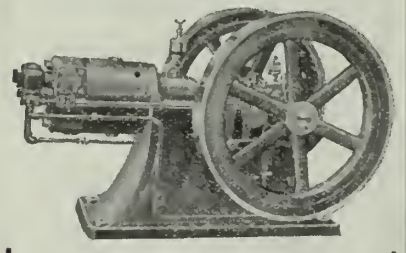
He has four acres of the finest alfalfa to be found in his section. The soil is 14 feet deep silt to the underlying quicksand, and according to Mr. Castello it ordinarily produces five or six cuttings per season aggregating 40 tons. It is now four years old. On the day mentioned, it would average 8 inches above a man's knees, was ¼ in blossom and would soon be cut. It was thick as hair and not a weed in it.

"It takes four days to water the piece, and I pull whatever weeds I see while I wait for the water. The ground is soft then, so the weeds pull easy."

The pumping outfit is a 15 h. p. Fairbanks-Morse engine and a 4-inch Samson centrifugal at the bottom of a concrete pit 14 feet deep. A tank 40 feet high is supplied for use about the buildings and for fire protection.

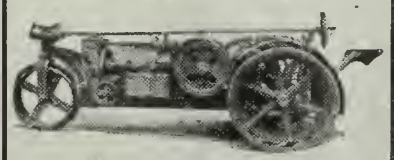
The feature of the outfit is the engine bed of concrete 5 feet deep and 4½ feet wide. "The troubles of many engine users are due to the excessive vibration allowed by too small a bed. Then the whole thing often shakes loose in the dirt and it doesn't take long for the bearings to wear out."

It is easy to start the big engine. The flywheel is turned to get some compression in the cylinder: a match broken off near the head is inserted into the "starter" which is then inserted through the cylinder jacket, striking a projection which lights it and causes the first explosion. This carries the engine around far enough



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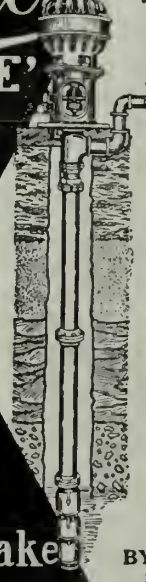
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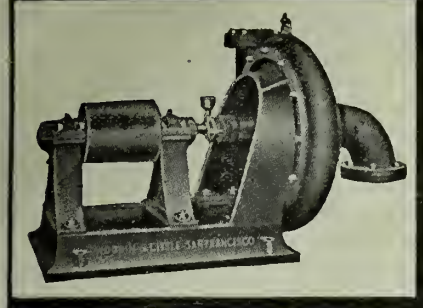
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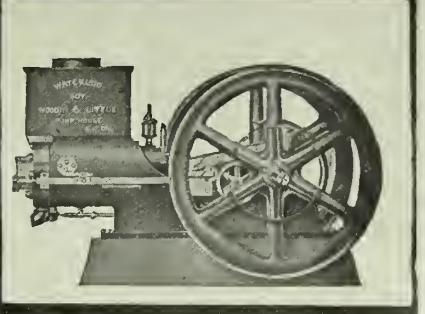
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to give an explosion from the 6-cell battery. A magneto run by contact with the flywheel gives the spark when it reaches a speed of about 500 revolutions per minute. A double switch disconnects from the batery and conects the magneto.

CONVENIENT OIL VS. FROST.

Systematic economical distribution of oil for frost fighting is obtained on the Limoneira Ranch of Ventura county. Tank cars are run to headquarters on the ranch via a private switch and are connected to pipes, which open great concrete underground reservoirs holding 100,000 gallons each. The oil is pumped from these reservoirs through two miles of three and four-inch pipe through the heart of the orchard to two steel tanks located about 180 feet above the level. It gravitates back to hydrants at various parts of the orchard convenient for frost fighting. In the spring, when the frost pots are cleaned, the pressure from above is shut off and the oil from the pots dumped into the pipes at the hydrants to gravitate to the concrete reservoirs. Then the hydrants are closed and the oil pumped up to the steel tanks. Quick work is made possible when the frost alarm rings, because everything is handy.

There were 10,724 pumped wells for irrigation in California in 1910. Of these, Los Angeles county had 1673, San Joaquin 1618, Sacramento 1168, Fresno 855, Santa Clara 800, Tulare 794, Riverside 792, and Orange 580.

The Samson Iron Works of Stockton are overhauling their plant. They expect to put out two new models of the Sieve Grip tractors this fall.

The Tulare County Power Co. (farmers' co-operative) has sold out to the Mt. Whitney Power Co. for $550,000. This terminates a bitter struggle which began before the co-operative company's poles were all set.

Approximately 50 per cent of the entire motor vehicle registrations of the State Aug. 1913 to June 1914, were made from San Diego, Imperial, Orange, Riverside, San Bernardino, Los Angeles, Santa Barbara, Ventura, San Luis Obispo, Kern, Inyo, and Mono counties, according to the 4th biennial report of the State Department of Engineering, just published.

One hundred thousand boxes of apples were recently sold to the Netherlands consul by growers of the Hood River section of Oregon. The price was $1.50 per box and the fruit will be shipped to Netherland growers in October.

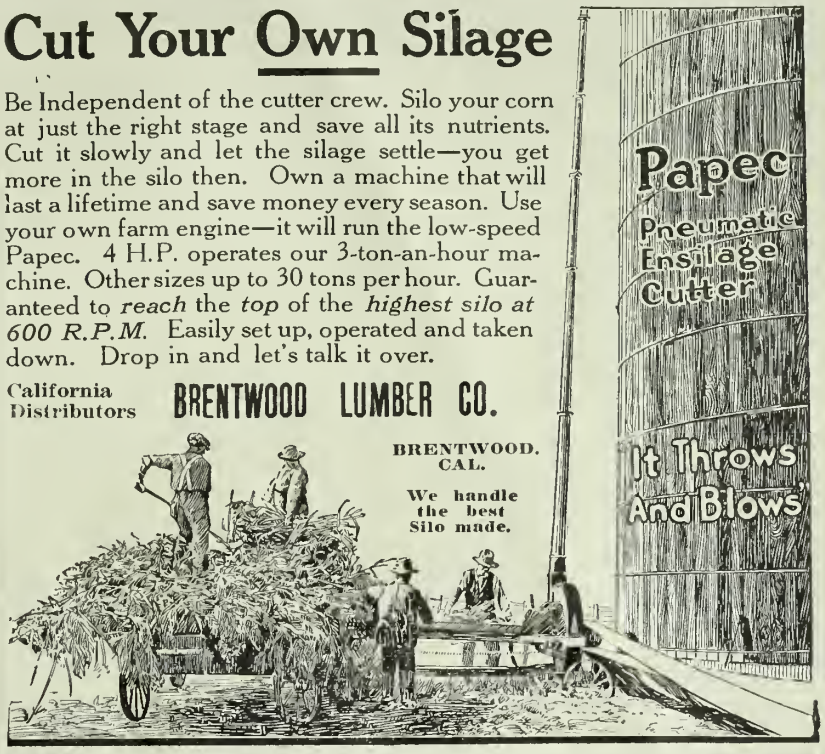
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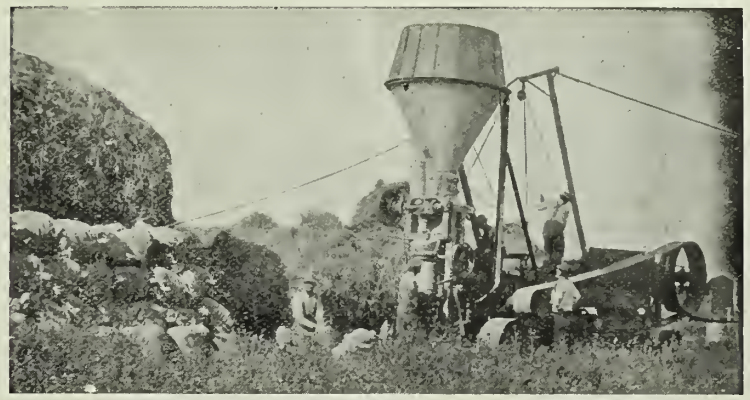
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NATIONAL FOREST REVENUES INCREASED.

The National Forests turned into the United States Treasury during the fiscal year ended June 30, 1915, nearly $2,500,000, an increase of more than $40,000 over the receipts of the previous year, according to a statement just issued by the Forest Service. The timber sales, which amounted to $1,164,000, yielded on account of the depressed condition of the lumber industry about $79,000 less than those of the previous fiscal year, but the gain was made possible by larger revenues from other sources. The grazing receipts, which totaled $1,125,000, increased $127,000 over last year, and the water power receipts showed an increase of nearly $42,000. The total receipts from water power amounted to nearly $90,000, of which $64,000 was developed in California.

The American Beet Sugar factory at Oxnard started up last Saturday, and sixty-eight tons of beets were sliced in the first hour's run. Between 6,000 and 7,000 tons of beets were on hand for the opening of the factory. The season's run is estimated at about 100 days, during which the entire factory will run day and night.

General Agricultural Review.

DECIDUOUS FRUITS.

An estimate of the apple crop of the United States places it at about one-third less than last year.

Ninety tons daily is the average pack at the canning plant of the Kings County Packing Company at Armona.

The Central California Cannerles Company will open shortly in Yuba City for a month or six weeks' run on midsummer cling peaches.

It is reported that practically all of the peach crops in Sutter and Yuba counties have been sold or contracted for at the present time.

Government aid, the nature of which is unknown, for disposing of the 1915 dried peach crop, is hoped for by Fresno county growers.

With three new packing houses in readiness to handle their product, pear growers of the Colfax district anticipate a busy season. Bartlett pear picking began on August 16.

On August 7 the Tulare cannery reopened and will begin packing peaches. It was closed for a short time on account of shortage of fruit.

Bartlett pears and plums are being shipped in large quantities every week from New York to South American markets by the California Fruit Exchange.

According to County Horticultural Commissioner H. P. Stabler, the red spider causes more damage to the fruit growers of Sutter county than any other pest.

A new peach has been produced by Kelly Bros. on the Kelly Bee Ranch of Santa Barbara county. It is an unusually fine variety of peach, of crimson hue, evenly colored, with the fruit of a deep yellow.

Alexander Sherriffs of Healdsburg denies that there are any grounds for the statement that prunes are dropping badly in the Alexander Valley, Sonoma county. As Mr. Sherriffs and his brother purchased most of this crop, he certainly ought to know.

GRAPES AND SMALL FRUITS.

A report from Lodi says wine grape growers are much more optimistic over the outlook for the year, and believe they will not suffer as much as had been anticipated through the $1.10 tax laid on brandies used in the fortification of sweet wines. The reason for the optimism lies in the fact that West & Son, pressed by independent competition, have contracted for several thousand acres of vineyards at $10 a ton, the price fixed in the contracts they previously canceled.

Grape growers want to know why statistics on one of the most important fruit crops of the State—grapes—were not included in the July crop report of the State Board of Horticulture and asked Dr. Cook, the State Horticultural Commissioner, "what about it?" The Doctor declared: "We will cheerfully furnish the statistics if they are wanted," and intimated that he would take steps to arrive at an understanding with the State Viticultural Commissioner on the subject.

Secretary Sheehan of the State Viticultural Commission states the vintage season is late and crushing in the Sacramento valley will not commence before September 15 and about 10 days earlier in the San Joaquin valley. He estimates the entire crop for the state at 75 per cent of normal, but would not venture to say what proportion of the crop the wineries would handle, the heavy tax proposed by Congress making conditions uncertain. The present outlook for wine grape growers and wine manufacturers is far from bright.

CITRUS AND SEMI-TROPICAL.

The packing house of the Butte County Citrus Association at Thermalito will open the latter part of October.

A new building is about to be erected by the Foothill Packing Company of Lindsay to be ready to handle the citrus crop in October.

A meeting was recently held by orange growers of the Villa Park section of Orange county, which was addressed by experts from the Riverside Citrus Experiment Station.

That the orange crop in the Tule river section of Tulare county will be about normal this season is the statement made by a prominent grower there. Good prices are expected due to the fact that the southern markets have been practically cleared.

OLIVES AND NUTS.

Messrs. Weiman and Foley, who own 228 acres in the Palermo section of Butte county, are making preparations to plant the tract to olives.

The harvesting of almonds in the Carmichael Colony of Sacramento county will commence shortly; many of the growers have purchased almond hullers.

The 25%-above-normal walnut crop predicted for Orange county will ripen two weeks earlier than usual, growers expecting that the harvest will be well under way by the middle of September.

An association has been formed in Oroville for the purpose of handling the olive crop of that section. It is expected that this year's crop will be handled by the new association, the product to be marketed through a Chicago house.

MISCELLANEOUS.

The Department of Agriculture estimates that American farmers will harvest close to a billion bushels of wheat this year. The exact figures given in the report are 966,000,000 bushels.

The United States Department of Agriculture is warning sportsmen that the Federal regulations as amended October 1, 1914, for the protection of wild fowl will be strictly enforced.

Reports and maps on the Sacramento-San Joaquin river flood control projects, irrigation data, use of motor vehicles and descriptions of the State highways are contained in the biennial report of the State Department of Engineering just issued.

Frank Henry and wife met with a serious automobile accident while on their way from San Francisco to their home in Fresno county early last week, near Turlock. Both suffered broken limbs but will recover. Mr. Henry will be remembered as the vineyard expert from whom we have quoted largely of late.

Farmers of Carson valley, Nevada, have finished cutting their first hay crop, and within another two weeks will begin on the second for the season. Though the spring was backward the crops are good and the second gives promise of being fully up to standard. There have been no complaints of scarcity of water up to date.

Hop-pickers are arriving in Wheatland, Yuba county, by hundreds, but as great care has been taken by the growers in selecting the people who will be employed hop picking this year, a precaution made necessary by former labor troubles, many families with scarcely any funds find themselves stranded and are causing the county officials some uneasiness as to getting them away again. Where the crowds come from is said to be a mystery.

Grave disorders are reported in the north of Portugal owing to a new treaty of commerce which will give the southern provinces the right to label some of their wine products "port wine," a name hitherto supposed to be the exclusive property of the Douro and Oporto producers. Meantime, California will continue doing business in this commodity as of yore, all orders receiving the usual prompt attention.

The 1915 report of the State Board of Agriculture is just issued. It shows that during the 10 months ending April 30, 1915, California live stock and food-stuff exports were $71,873,371, an increase of $13,451,110 over the same period last year. The report is full of statistics regarding area, population, and production of the farms by counties, by products, by breeds, varieties and kinds for the years 1850 to 1915. Irrigation, water transportation, roads, and natural resources are described, and statistics of each county's agricultural resources are given separately.

F. C. Reimer, Superintendent of the southern Oregon Experiment Station, before the California State Fruit Growers' Convention held at Palo Alto recently, declared that the use of sulphur as a fertilizer for alfalfa would increase the yield as much as 600 per cent in some instances, would improve the color by making it a darker green and that fields treated with sulphur are much freer from weeds. He advised farmers of this state to try about 300 lbs. on one acre and watch results.

Experimental tobacco growing at Grass Valley has resulted in the successful production of small crops of five distinct varieties of the "weed." Several of the methods used in proved tobacco-producing countries were experimented with and it was found that all may be successfully adopted in California. The experimenting ground covered about four acres and a portion of the plantation, about one-fourth of an acre, was covered with light cloth, forming a gigantic tent, the purpose being to experiment with a certain variety produced under those conditions.

The Department also issues the following warning: "Investigation by the Bureau of Chemistry has shown that there exists a practice of shipping into interstate commerce, wormy or weevil-infested horse beans, broad beans (Vicia faba). These horse beans are used almost entirely for food purposes. This infestation does not occur in transit, but during the development of the bean, and can be easily detected by examination of the beans before shipment. The Bureau will regard as in violation of the Food and Drugs Act, June 30, 1906, all horse beans shipped into interstate commerce or offered for importation into the United States, which are so infested to any material extent."

A Long Island man has found a use for wax paper drinking-cups after they have been used. He grows tomatoes in his garden and finds that by cutting the bottom out of a drinking-cup, slipping the young plant through what is left and planting so that the cup is half buried in the earth, the plant will be safe from cutworms. He says that cutworms attack the tomato vines just at the level of the ground and never come above the surface. The cup acts also as a reservoir, holding moisture in the soil it contains and letting it soak down to the roots without washing out into the surrounding earth. He uses the cups, also, in planting slips of any sort, cutting a hole in the bottom for drainage, filling with earth and placing the whole in the ground. As the slip grows its roots destroy the remnants of the cup.

SEBASTOPOL APPLE SHOW.

The Sixth Annual Gravenstein Apple Show at Sebastopol opened strictly on time with music, speaking, and bright lights. Great crowds thronged the town and inspected the exhibits, which as usual consisted of fresh and dried fruits both in commercial exhibits and in unique designs worked out for decoration. Among those who exhibited boxed apples in large quantities were the Sebastopol Apple Union with several hundred boxes, the Hallberg Ranch, C. H. King, Laura E. Bariow, M. J. Moniz, Oscar Hoensch, J. P. McDonell, Frei Bros., Kauffman & Arnold, Mrs. C. P. Weyhe & Sons.

The Sebastopol Apple Union also showed fresh and dried blackberries and fresh strawberries. Exhibits of jellies and preserves not only of apples but of other fruits were a feature of the show. Mrs. Hilda B. Neilsen had one of the best exhibits of jellies scientifically made. In the bungalow room decorated by the Pleasant Hill Home Culture Club was an artistic array of jellies, fruits, and farm products, decorated with home plants. A 12-foot reproduction of Luther Burbank's home decorated one corner of the big tent, being built of corn, grain, and beans with spineless cactus shingles, and dried apple sidewalks. Mr. Grohe, Santa Rosa florist, had a beautiful moss arcade filled with fern decorations and beautiful flowers. Graton had an apple-covered Exposition star, the three-foot points of which represented the eight districts surrounding Sebastopol. A fountain sprinkled from the crown of the big apple on top of the star into a 16-foot pond also surrounded by little fountains and by pillars connected with strings of apples. The pillars were set in a moss circle decorated with Gravenstein apples cut into the shape of tulips. A dried apple Liberty bell in which the crack is made of prunes was perhaps the most striking exhibit of all. Many other exhibits were scarcely less noteworthy than the ones mentioned.

Hog Growers' Opportunity in California.

(Continued from page 169.)

the State Veterinarian's force is co-operating with the University, the U. S. Dept. Agr., the county veterinarians, county advisers, county supervisors, and swine breeders' associations. A most prominent feature of this campaign is the cleanup that must follow every attack. The premises and grounds can be reasonably disinfected without too great expense, and those hogs which have been sick but have recovered may be dipped or washed to help prevent reinfection, and kept separate for two or three months.

With freedom from disease better assured in California than elsewhere, markets for the pork are to be located before joining a movement for 5,000,000 hogs in California by 1925.

There are now 877,000. Estimating one-tenth of these as brood sows and boars, Californians are eating nearly 800,000 hogs per year which have been raised in California. The imports represent about 683,000 live hogs, making a total of some 1,483,000 hogs consumed in California with her present population.

The population of California increased in the following proportions by decades beginning 1860-70: 47.4 per cent, 54.3 per cent, 40.3 per cent, 22.4 per cent, and in 1900 to 1910, 60.1 per cent. In the newly issued report of the California State Board of Agriculture, the population for 1914 is given as 2,757,895, an increase in four years of more than 16 per cent, or over 4 per cent a year. What the World's Fair will mean in attracting settlers to the State during the next ten years, can only be guessed; but there is little reason to think that the population will increase less than 50 per cent.

This would make possible a total consumption in California in 1925 of 2,224,000 hogs without increasing the per capita consumption. To produce these at the rate previously estimated would require over 222,400 breeding stock, making about 2,446,400 hogs required for meat use alone in California.

Outside Markets. — The intermountain region is fast being populated and may be counted as an increasing market. South America and the Orient are potential markets. This is shown by the actual exports from San Francisco alone of quantities of pork not large enough to materially affect the estimates given above, but large enough to show that exportations would be feasible if we had the supply. In 1914, as listed in the San Francisco Chamber of Commerce export book, China took 6701 pounds bacon, 19,000 pounds ham, and 5100 pounds of lard from San Francisco. Chile took 1000 pounds bacon, 9200 pounds barreled pork, and 1,000 pounds lard. The Philippines took 142,000 pounds bacon, 146,000 pounds ham, and 93,000 pounds lard. When we have enough of our easily-produced California pork to develop our logical outside markets, the number raised in California can only be guessed. Our exports might easily equal our home consumption.

Hogs Easiest to Start.—In deciding what to raise on these subdivided farms, of secondary importance only to the prospective markets is the matter of getting a start with available capital.

In no line of livestock is the initial investment so small and the increase so rapid. There is no reason why the increase might not be a dozen per sow per year, at the conservative rate of three litters every two years. With the increased use of purebred stock for sires, greater care will be given to the litters, and a larger percentage raised.

Expensive Equipment Not Needed.—For equipment, all that is necessary is to keep the sleeping quarters dry, provide shade, maintaiu tight fences, keep feed out of the mud, and have a dipping tank ready for use. An 8x12 portable shed-roofed hog house with an 8x12 shade attached will require about 800 board feet including the roof, and may be used for two lots of hogs by partitioning. Other satisfactory hog houses may be built cheaper than this.

Feed Grown at Home.—The feed can be raised on the farms, and should be fed to animals because they remove but a small proportion of the fertility elements, but put the feed into the most profitable marketing form.

Experiments in the cold northern states indicate that about 4½ pounds of barley make a pound of pork on a 100 pound hog. A very slightly greater weight of barley was required, than of corn meal. The California State Board of Agriculture shows that in 1913, we exported 17½ million bushels or 875,000,000 pounds of barley—enough if all properly fed to hogs, to have produced 193,000,000 pounds of pork of first quality. The sorghum corns, which are particularly fitted for heavy production in our State, produce not quite so much pork per pound as Indian corn, but are much used and satisfactory. Over 2,000,000 bushels of Indian corn were produced in California in 1914, more than in any year since 1896. These grains may be used in small proportions with alfalfa, skim milk, the wastes of the orchards, vineyards, feed lots, and kitchens, to bring the pigs to fattening age and size, when the grains are fed heavily for a short period to add fat and harden it to market quality.

Purebreds Must be Increased.—But not only with market hogs are we concerned. They are most economically produced by use of purebred sires. To supply these purebred sires will require an immense increase in the number of farmers raising purebred stock only. Many a man with experience says that it costs less to feed, but a little more attention, to raise purebreds than grades or scrubs—and many a man is beginning with a purebred gilt and whatever cheaper hogs he can get. He aims to get rid of the cheaper hogs as the purebreds increase to the capacity of the farm. The weanling pigs sell at $15 to $25 each for breeding, if registered; considerably more per pound than is paid for hogs "practically purebred," or purebred but not registered.

With all her natural climatic, feed, and market advantages, why should not California supply not only her own market hogs, but her own breeding stock, and some extra of both to ship far and near at profitable prices.

NURSERYMEN IN CONVENTION.

Last week the Pacific Coast and the California Nurserymen's Association held three days' joint sessions at San Francisco. While the attendance was not as large as had been hoped, yet the most of the sessions were full of interest and the visiting nurserymen enjoyed them; also the several social functions provided by the local committees.

Conditions affecting the nursery industry were generally discussed, covering quarantine regulations, more home-grown stock, revision of railroad classifications, and uniform horticultural laws in western States.

California nurserymen feel that their industry is vitally affected by an order of Postmaster-General Burleson, requiring that parcels post packages of fruit trees be inspected at point of destination. The nurserymen suggest that the inspection against insects, pests and disease be made at the shipping point, the clearance there permitting of immediate delivery at point of destination. It is asserted that a large percentage of horticultural shipments are to points where there is no inspector. The result is, the package has to be forwarded to the nearest city where there is such an official, and after inspection there, remailed to the original point of destination, the consignee paying this extra postage. It is further asserted that this delay in delivery frequently causes the death of the trees. The resolutions adopted by the California Association of Nurserymen not only complained of Burleson's order, but demanded uniform horticulture laws in all Western States, and a revision of railroad classifications on style and shape of packages containing plants and small trees.

The Pacific Coast Nurserymen elected officers for the coming year as follows: President, S. C. Miller of Milton, Oregon; Secretary, C. A. Tonneson, Tacoma, Wash.; Executive Committee, John Vallance, Oakland; M. McDonald, Orenco, and Mr. Bennett, Medford. The vice-presidents, one from each State, were all re-elected.

The California Nurserymen elected officers as follows: President, John S. Armstrong, Ontario; Vice-presidents, Charles Howard, Hemet; John Vallance, Oakland; George F. Otto, San Diego, Max J. Crow, Gilroy; T. E. Mabee, Fresno; Secretary-Treasurer, H. W. Kruckeberg, Los Angeles; Executive Committee: J. D. Meriwether, Los Angeles; Frank H. Wilson, Dinuba, and John Gill, West Berkeley.

A political candidate for an agricultural district, after making a speech, announced that he would be glad to answer any questions that might be put to him. "You seem to know a lot, sir, about a farmer's difficulties. May I ask a question about a momentous one?" Certainly," replied the candidate, nervously. "How can you tell a bad egg?" went on the merciless voice. The candidate waited until the laughter died away. Then he replied: "If I had anything to tell a bad egg, I think I should break it gently."

The Burbank Company is experimenting on the dredged lands around Oroville, Butte county, with the idea of establishing extensive spineless cactus plantations.

Side Hills Use a YUBA

1. A Low Center Gravity.
2. Tread Absl'y Locked on.
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Please send me Catalog of the Yuba Ball Tread.
I have .... acres of land and my principal crop is ....
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for underground irrigation system city water mains, mining, etc This pipe is manufactured in sections ten feet long—two sections being riveted together—making only one round seam in twenty feet as against seven round seams in the short length pipe made by others. We have all diameters on hand in large quantities. Also all fittings, etc. Catalogue free.

For Surface Irrigation Systems we recommend our Double Riveted Lock Seam Surface Irrigation Pipe. Write us your needs.

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Branch: 1228 "H" St., Fresno.

The Durham Almond Growers' Ass'n

of Durham, Butte County, Cal., will receive sealed bids on August 24 for their 1915 crop of Almonds, said crop being estimated as follows:
Nonpareil—49 tons, more or less.
Ne Plus Ultra—52 tons, more or less.
Drake's—47 tons, more or less.
I X L—29 tons, more or less.
Texas Prolific—12 tons, more or less.
Languedoes—3 tons, more or less.
Bidwell Mammoth—½ ton, more or less.
Gross Tender—½ ton, more or less.
Almonds to be Durham delivery, through DePue Warehouse.
Bids to be accompanied by a certified check of one thousand dollars. The Association reserving the privilege of revoking any or all bids.
Address all bids to
A. W. MORGUE, Secretary.
P. O. Box 81, Durham, Cal.

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BOOK ORDERS NOW
For Fall Shipments
Sheep, Cow and Horse Manure in any quantity.
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"We Grow Everything Worth While"
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What are Cattelo?

To the Editor: Can you give me any information about the Cattelo, which is a cross between cattle and the buffalo? Is it true that they will cut up higher than beef cattle, and that they are better range animals? Would there be any difficulty in marketing them as beef? Can range stock be bred up to them by the use of only cattelo bulls? There was an article in the Literary Digest of a few weeks back about the cattelo. Do you know the article in question, and how much truth there was in it?—E. S. S., San Rafael.

The following experience of Charles Goodnight of Goodnight, Texas, appearing in the Journal of Heredity, is probably as valuable as any information available on the subject. He says: "I can summarize my experience in crossing Texas buffaloes with native cattle, as follows:

"I take a male buffalo calf, put him with a native cow and let him suck her until weaning time. I let him run with common cattle until large enough to serve. He will then cross with any kind of domestic cattle. In making the first cross, no male calves have ever been born; cows conceiving them either suffer abortion or die, hence I only get heifer calves and a small per cent of them. There is no trouble whatever in giving birth. The cause of abortion and death is unknown to me. The heifer calves obtained breed readily to either the buffalo or the cattle. When bred to the buffalo, the males, which are three-quarters, are not fertile. The females are perfectly fertile and will breed to either race. I breed them back to the polled Angus stock from which they come, and get males which are fertile and which are half-breeds.

"The type or race of hybrid cattle is now virtually established in a small way and herewith I give you a few of the points of advantage which the "cattleiow" have over common cattle.

"First, they are immune from all diseases as far as I have tested them. I know they are immune from Texas Black-leg and Texas fever. I have shipped three bulls, one-eighth buffalo, to our coast, the worst tick-country we have. One died and two are living, so I have reason to believe that if they were a little higher in the buffalo blood, they would be entirely immune."

See also "Breeding Cattelo" by C. J. Jones, in American Breeders' Association Annual Report, vol. III, p. 161, 1907.

Second, the "cattleiow" are much greater in weight, eat much less and hold their flesh under more adverse conditions. They will easily cut about 70 per cent net of their gross weight. They have a better meat, clear of fibre, and it never gets tough like beef.

They have long and deep backs, enabling them to cut at least 150 pounds more meat than other cattle. More of them can be grazed on a given area. They do not run from Heel Flies nor drift in storms, but, like the buffalo, face the blizzards. They rise on their fore feet instead of their hind feet. This enables them to rise when in a weakened condition. They never lie down with their backs down hill, so they are able to rise quickly and easily. This habit is reversed in cattle.

When a herd on range gets weak and poor towards spring, their lying down with their backs toward slopes and on sides of hills causes a loss of from 1 to 6 per cent. Every weak cow which so lies down can never get up, unless she is found by the herder.

The buffaloes have 14 ribs, giving them a longer and deeper loin. As we get them higher and deeper in the buffalo we get the extra rib on the "cattelow." They can exist on less salt than cattle.

They could do without water much longer than cattle, without inconvenience. They are docile, easily broken and never fight. They put on flesh faster than any cattle and will live and appear to do well where cattle will perish.

found that they had no bearing on the condition.

After several days of like experiences, the milking was delayed one morning until after breakfast, when all of the cows were milked without allowing any interval between times, thus part of the milk was not allowed to stand in the vat before the balance was added, and was drawn immediately after milking into the pans.

The next day, upon examination, the milk was found to be perfectly sweet and the conclusion was arrived at that the animal heat which remained in that milk which was drawn before breakfast was responsible for the clabbered condition in the pans, as the milk was not aerated soon enough after being drawn from the cows.

Further experiments along this line proved that this contention was correct; and after that the milk was



AERATING MILK FOR BETTER BUTTER.

[Written for Pacific Rural Press.]

A retired dairyman recently told of the experience he had many years ago in milk aerating and butter making, which pretty thoroughly establishes the theory that aerating and cooling of milk at the dairy is necessary in the making of good butter.

At the time he tells us of there were about 60 cows being milked on the dairy, the common practice being to milk half of them before breakfast and the other half after breakfast. As is was before the advent of the cream separator, the milk was poured from the pail into setting pans, the cream afterward being skimmed in the pan.

This necessitated considerable work, and resulted in the installing of a large vat inside of the milk room into which the milk was poured from the outside of the building.

Clabbered milk in the skimming pans resulted almost immediately after this new method was introduced and the dairyman was at a loss to understand why such should be the case when he had never before been botherd with it. The pans and utensils were first thoroughly cleaned and sterilized with the idea that possibly they were responsible for the clabbered milk, but it was poured into the settling pan as soon as milked, one man attending to that work and being careful not to mix the two batches.

This dairyman maintains that the aerating process which results from running milk over water coolers diminshes the animal heat to such an extent that good butter making is very much simplified; but does not believe it is possible to make good butter from milk cooled in bulk, such as may often be seen on dairies where the warm milk is poured into a large vessel or 10 gallon can to cool from the outside air.

POINTED SUGGESTIONS ON GOOD CREAM.

[Written for Pacific Rural Press.]

The following communication from W. H. Roussel of Oakland, who has perhaps exerted more effort in educating both the producer and manufacturer to the need of better and more uniform quality in our dairy products, is well worthy of consideration on the part of dairymen, for it is apparent that the co-operation of each and every dairyman is needed along this line in order to successfully market California butter at prices which will keep the dairy industry flourishing:

"A few remedies for the dairyman to follow are herewith suggested and are intended for the best interests of the producer. It is only a matter of time when it will be compulsory for the buyer of cream to refuse any overripe or tainted goods. Everything about a dairy should be sanitary and care taken to keep it in such condition. Cream should be kept cool by the producer until such time as it passes into the hands of the manufacturer of butter. To do this, one should be provided with a tank or vat which should be filled with cold water in which the cream should be placed in cans only half full. Be sure to stir the cream thoroughly at least every two hours, thus keeping it smooth; never mix the different separations until they have each been thoroughly cooled, and when mixing see that they are properly stirred after mixing. Do not keep the covers on the cans while cooling, but place a piece of fly screening over the top of each can to keep the flies away. Deliver the cream every day if possible, never later than every other day, even during the winter months. If you find that a buyer of cream is paying you for good cream the same price that he is paying for poor cream, you have just cause for complaint. One who produces poor cream has no grounds to complain, and he should be satisfied with any old price offered for his product. Cream for churning should be 35 per cent at least to insure its arriving in good shape."

A plate of Gravenstein apples from Sebastopol took second prize at the convention of the International Apple Shippers Association recently held in Chicago, with 2300 plates on exhibition.

Don't let her Suffer from Flies
If you want to keep your cows comfortable and make bigger profits Use
Conkey's FLY KNOCKER
5 gals., $4.00; 1 gal., $1.00,
except at interior points.
If your dealer cannot supply you write Germain Seed and Plant Co., Los Angeles, or Coulson Poultry and Stock Food Co., Petaluma

REGISTERED DUROC-JERSEY SWINE
Herd headed by Defender of San Waukeen, a son of the great "Defender." Gilts and sows bred to him for September farrow. Also young boars and gilts. Anything in herd for sale at bargain prices, including herd boar.
H. S. VAN VLEAR, Lodi, Cal.
R. F. D No. 2.

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Expert Live Stock Auctioneers
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Twenty-five years' experience.
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FOUR DUROC-JERSEY BOARS
Like all our herd, these are registered from "Col. Keen" and "Advancer 4th" stock. Farrowed April 10, 1915. In the best of condition. Write for prices and particulars.
RIVER BEND FARM, St. Helena, Cal.

HORSE OWNERS! USE
GOMBAULT'S
CAUSTIC BALSAM.
A safe, speedy and positive cure The safest, Best BLISTER ever used. Removes all bunches from Horses. Impossible to produce scar or blemish. Send for descriptive circulars.
THE LAWRENCE-WILLIAMS CO., Cleveland, O.

Classification for Rio Vista Horse Show.

[Writtea for Pacific Rural Press.]

That September 9 will be a gala day for horse men at Rio Vista, Solano county, seems assured from reports we have received together with prize list and classification for the Horse and Colt Show which is to be held there.

Through the aid of business men and horse breeders the committee on finances has been able to raise a large sum for prize money, the Board of Supervisors of Solano county alone donating $500.

Premium money amounting to a total of $442.50 is offered, besides six free service fees of local stallions. Eight classes are provided for; classes number one, two and three being for purebred and registered Percherons, Belgians and Shires. The prizes for each of these breeds are as follows: $10 for best stallion over four years old; $10 for best three-year-old stallion; $10 for best two-year-old stalilon; $10 for best one-year-old stallion; free stallion service for best stallion foal; $7.50 for best mare over four years; $5 for best three-year-old mare; $5 for best two-year-old mare; free service fee of local stallion for best filly foal; $10 for best mare and foal; ribbons to be awarded as second prizes.

Prizes for grades are as follows: $10 for best mare four-year-old; $5 best three-year-old mare; $5 for best two-year-old mare; $5 for best yearling mare; $10 for best mare and foal; $10 for best mare and her get; $5 for best foal either sex; $10 for best three-year-old gelding; $10 for best two-year-old gelding; $10 for best yearling gelding; $10 for best mare and two of her get.

Class number five provides a first prize of $15 and a second prize of $10 for the best and second best three animals any age, either sex, the get of one sire, it being compulsory that the sire be previously shown in his class. A $10 prize is offered for the best mare and two of her get, mare to be purebred and previously shown in her class.

Class number six provides $10 for best jack and three of his get; $5 for the best jack and $5 for the best mule foal.

Class number seven is the harness class, prizes being $10 for best four-horse draft team hitched up; $5 for best pair of draft horses hitched up; $10 for best four-mule team hitched up and $5 for best span of mules hitched up.

Class number eight provides a $10 prize for grand champion stallion limited to first prize winners in their respective classes; $5 for best foal irrespective of breeding; $10 for best three foals owned by one man and $5 for second best three; $5 for best draft gelding 1700 pounds or over; $5 for best mule on grounds 1400 pounds or over; $10 for grand champion mare irrespective of breeding but limited to first prize winners in the various classes.

When there is but one entry in a class but 50 per cent of the premium money will be paid. All stock must be in show condition and entries must be in the hands of Secretary Dr. A. F. Hanna of Rio Vista not later than September 1. No entry fee will be charged and competition is open to the State.

The committee on amusements promise a good time to all visitors, and it seems probable that every farmer in Solano and adjoining counties as well as many interested parties in other parts of the State will be present.

WHY DAIRY COWS ARE POOR.

[Writtea for Pacific Rural Press.]

Why is our average butterfat production so small? Let us print a conversation that was recently overheard in a country just starting to dairy and then guess at the reason.

Farmer A was at Farmer B's ranch trying to buy some alfalfa hay. Farmer B had a heifer tied up in the barn. Farmer A said: "A calf, eh? Let me sell you a heifer. I have one about that size, a Holstein, and another sort of a mixed colored one about a year old that will soon be old enough to breed, and she's a daisy. Got her along with a bunch I brought in from Washington last winter. Got a dandy bunch of young bulls, too. Sold three here lately to Farmers C, D, and E." The writer: "Are they purebred bulls?" Farmer A, "O, sure." The writer: "Registered?" "No, not registered," he replied, "but their mothers were thoroughbreds and their sire, too." The writer: "Either their father or mother registered?" "No," he shouted, "but what in tarnation do you care for, anyway? I don't care whether a bull or cow is registered or not as long as they are thoroughbreds. My cows are better than any of these fancy registered ones." "How did you find that out," we asked; "by testing and weighing your milk?" "Well you sure are a smart Eleck," he replied. "Do you suppose I don't know how good my cows are when I milk them twice a day myself?" "Do you take the Pacific Rural Press?" we inquired. "Nope," was the rejoinder; "there's been two or three fellows around here trying to get me to take it, but I don't have time to read. By the time I get the cows pailed and the chores done up it's time to roll in, and I'm busy all day." "Serves you right," we replied, as he drove away as we thought of the time and money loss he had caused C, D, and E, by getting them to use scrub bulls.

The farmer A class who is selling scrub bulls to new settlers as in this case is the big reason that our average production is low. His wares should be shunned like a case of smallpox by the farmer who would make money from dairy cows.

CARE IN FEEDING MILK TO HOGS.

[Written for Pacific Rural Press.]

A Yolo county dairyman called for help, for his pigs were lank, sick, and coughing. They were found to have tuberculosis, having been fed skim milk from tubercular cows. These pigs were killed and their carcasses found rotten with the disease. The milk from the cows has since been pasteurized before feeding to the pigs and the new lot of pigs is as thrifty as could be desired.

It is stated that during the last ten months, the United States has exported horses to the warring nations to the value of $60,000,000.

The apointment of a county veterinarian is being urged by stockmen for Humboldt county. H. A. Perry, President of the Humboldt County Dairymen's Association, will appear before the next meeting of the Supervisors, setting forth the need of such an officer.

100 HEAD 100

Complete Dispersion Sale

OF THE

HOLSTEIN-FRIESIAN HERDS

of T. J. Gilkerson, Lemoore, and Heenan & Weldon, Sacramento, to be held at

Hanford, September 15th

80 head of cows and heifers, bred to the best young bulls in the West. The two herd sires, Juliana De Kol King Segis and Prince Gelsche Walker Korndyke, will be sold. Never again will the public be offered an opportunity to buy two bulls bred like these.

18 Granddaughters of the great sire King Segis.
6 Granddaughters of Pontiac Korndyke.
3 Daughters of Admiral Burke.
9 Daughters of cows with records of from 15 to 25 pounds butter.
2 A. R. O. cows, one of whom has an A. R. O. daughter.

Several cows that are capable and will make A. R. O. records up to 30 lbs. The best bred and the best type of Holsteins that will be offered at the Fall sales.

20 young bulls from A. R. O. cows and sired by bulls from the Korndyke and King Segis family. 12 of them past yearlings ready for service.

Taken altogether, it will be a quality sale.
All animals over six months old tuberculin tested.
Catalogues will be ready about September 1st.

Address: DR. E. J. WELDON,
Sales Manager,
Box 962, Sacramento, Cal.

COL. BEN. A. RHOADES,
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FOR SALE

BULLS HOLSTEIN BULLS

Four very choice sons of DUTCHLAND SIR PIETERTJE CREAMELLE. Dam DUTCHLAND CREAMELLE, a 23-lb. cow. Grand Dam CREAMELLE VALE (world's record milk cow) Grand Sire, PIETERTJE HENGERVELDS COUNT DE KOL (99 A. R. O. Daughters, four over 31 lbs), and PONTIAC BUTTER BOY (59 A. R. O. Daughters, two over 31 lbs. and one who made 1227.78 lbs of butter in 1 year), son of KING OF THE PONTIACS, the most noted sire of the breed. No. 1 born Jan. 2, 1914. Dam PAULINE INKA DE KOL KATE, 20.80 lbs. butter from 485 lbs. of milk at 7 years.. Dams: Grand Dam, a 27-lb. cow.. Price. $200.. No. 2, born Feb. 7, 1914. Dam CEONE TAPPAN 2nd, 153978, 21 lbs. butter from 460 lbs. milk.. Price $200.. No. 3, Born April 5, 1914. Dam LADY PONTIAC PAULINE INKA 2nd, 18.62 lbs. butter from 458 lbs. milk. Dam's Sire KING OF THE PONTIACS 4th, whose sire is KING OF THE PONTIACS.. Price $200.. No. 4, Born May 24, 1914.. Dam KALSORA SEGIS GERT, 19.42 lbs. butter from 388 lbs. milk.. Grand Sire KING SEGIS BUTTER BOY, who has 127 A. R. O. daughters, four over 27 lbs. Price $175. These bulls are good San Lorenzo individuals.

F. H. STENZEL, San Lorenzo, Cal.

GRANDSONS OF TILLY ALCARTRA

At Prices within Reach of Every Breeder and Dairyman.



A Grandson of Tilly Alcartra.

We have several splendid grandsons of this now famous cow which we can deliver to you at prices which will suit the pocketbooks of every dairyman wishing to improve the quality of his herd, whether it be a grade or pure-bred herd. These bulls are sired by our herd bull, Prince Alcartra Korndyke and out of A. R. O. cows, and are the only living grandsons of a cow having a record of over 30,000 pounds of milk in a year. Such an opportunity for increasing production has never been offered DAIRYMEN AND BREEDERS in California, price and quality considered. Buy one of these bulls and solve your low production problem. Write

J. S. Gibson Co., Box 97 Williams, Cal.

"THE NAME GIBSON INSURES QUALITY."

When Grain is High Feed DIGESTER TANKAGE

Whether intended for show or market, the hog attains perfect condition and more quickly and economically if his ration includes some DIGESTER TANKAGE. The growing pig needs DIGESTER TANKAGE as a bone and muscle builder. Write for free pamphlet on hog-feeding.

WESTERN MEAT COMPANY,

Animal Food Dept., 704 Townsend St., San Francisco, Cal.

With the Live Stock Men.

DAIRYING.

The purchase of 106 acres of land and a herd of 35 dairy cows was recently made by W. A. Miller from F. P. Griffith of Tulare.

The recently organized Napa Cow-Testing Association now has 925 cows signed up, and work in the county will begin Sept. 1.

A. L. Harlow of Montague recently purchased 140 head of cows and heifers and expects to engage in dairying in an extensive way.

The purchase of 480 acres near Woodland was recently made by John Vierra of Hanford from W. B. Jennings. The new owner will engage in dalrying and stock raising.

The Shore Acres Dairy of Alameda county are getting a nice start in Guernseys, having sixteen head at the present time. They recently installed a Sharples Milking Machine.

J. J. Furrer of Pleasanton is milking 65 head of cows this season, selling the whole milk at 16 cents a gallon. He's not talking hard times.

F. H. Stenzel of San Lorenzo reports the testing of two daughters of his senior herd sire, Sir Peiterije Bests Segis. A junior two-year-old, Estudilla Korndyke Ormsby, produced in seven days 19 pounds butter, and her half sister, Estudilla Fanny De Kol, also a junior two-year-old, made 17 pounds in seven days.

The Point Reyes Co-operative Creamery is planning to buy farm milk coolers wholesale and sell to stockholders at cost. A number of members have already signified their intention to get one each. This creamery has declared a 10 per cent dividend which represents less than one-third of the profits from its first six months of business.

The California Jersey Breeders' Ass'n, in their meeting at Modesto, Aug. 14 took action postponing the Annual Futurity Contest until 1916 at the State Fair at Sacramento. The animals entered for this year's contest will be held over until next year and will enter the contest as three-year-olds. The regular two-year-old class will be held next year as already provided for. The next annual meeting of the Association will be held at the Exposition during the Dairy Show.

N. H. Locke & Company of Lockeford have now nearly 200 registered animals. They are at present milking 75, all of which are on official test. The following is some of the work of a few of their cows: Moryet 3rd, a 4 year old, during May 79.90 pounds fat or 99.87 pounds butter, figuring 80 per cent fat or 20 per cent over churn; Foxy Blondy of Lockeford, 3 year old, 63.30 pounds butter, figuring 20 per cent over churn; Dairy Maid of S. B., 5 year old, in five months produced 288.063 pounds butter, figuring 20 per cent over churn; No. 135 in 7 months produced 429.74 pounds butter; Dairy Maid's Lassie of Lockeford, 4 years, 330.05 pounds butter in 7 months; Valets Golden Biddy of Lockeford produced 371.28 pounds in 7 months.

CATTLE AND SHEEP.

P. R. Peterson of Maxwell recently shipped 30 cars of sheep to a San Francisco meat company.

Two carloads of beef cattle were recently sold by Mulqueeney & Inman of Alameda county to a San Francisco firm.

A band of 1500 sheep is being moved by Patrick Connolly of Alameda county from the Carneal Ranch to the Byron Tract.

Two trainloads of sheep were recently shipped over the Western Pacific from Elko county, Nevada, to a San Francisco firm.

Four hundred ewes at $6.50 a head were recently sold by Peter Moy and Patrick Connolly of Alameda county to a Stockton sheep man.

Frank Ellingwood recently purchased 640 acres in the Shelter Cove section of Humboldt county, on which he will engage in the cattle and hog business.

Stubble feed in the vicinity of Livermore is reported to be exceptionally cheap this year, sheep men paying 6 cents a head in the river bottoms.

It is reported that a large Chicago packing company recently received a cable from England asking an estimate on 1,000,000 head of American beef cattle cash on delivery at Liverpool.

Miller & Lux have recently purchased from W. M. Carruthers five registered Hereford bulls to breed on 100 purebred Hereford cows, recently added to their herds. This firm also purchased a registered Shorthorn bull to head their herd at the Colony Farm.

HORSES AND SWINE.

R. S. Irwin of Modesto has 12 head of horses training on the Pleasanton race track.

Four cars of cattle were recently shiped from Woodland to Mahoney Bros. of Merced county.

The River Bend Farm of St. Helena has just placed four of its registered Duroc boars on the market.

J. W. Wakefield of Acampo has entered the Poland-China game, his foundation stock having been secured from W. A. Young of Lodi.

Mr. Gates of Brentwood recently sold two young Berkshire boars, one to Mrs. Bayston of Susanville and the other to Ames Melcher of Oakley.

W. A. Young of Lodi recently sold an 8-months-old Poland China boar to J. W. Pyers. Mr. Young intends to take his show herd to the Exposition this fall.

J. F. Dunn of Morgan Hill moved three colts to the Pleasanton race track to train. Since arriving, one two-year-old trotted the mile in 2.18, and a two-year-old paced it in 2.20.

The Whitehall Ranch of Tracy have a hog population of 3484. Of this 1000 are grade brood sows, 25 registered sows, 45 registered boars, and the balance are mostly stock hogs ready for market in November.

The French Government has authorized their agent at Reno, Nevada, to secure 35,000 cavalry horses within the next few months. He expects to fill the order in Nevada, paying stockmen approximately $3,500,000.

C. W. Ridley recently purchased the Smith ranch at Oaklay where he has a fine bunch of registered Poland China and Berkshire hogs. This is one of the few ranches in Contra Costa country where alfalfa is grown beneath the almond trees.

W. M. Carruthers received from Ames, Iowa, recently a car of 31 head of Berkshire hogs. Of this number, there are now eight in the view herd at the Panama-Pacific Exposition. Thirteen head went to Riverside and the balance went to other breeders.

It is reported that cholera has made quite a start among the hogs on the tule lands west of Stockton. A great many of the ranches in that section as yet free from the disease have signs up warning parties from infected places to keep of their farms.

Roseville, Placer county, is the assembling point for mules being purchased for the English Government. From that point they will be shipped to Lathrop, Mo., the world's largest horse camp, where there are now more than 27,000 horses and mules being cared for.

Three sows and one boar were recently purchased by J. B. Thorpe of Stockton from the great Browning show herd of Hearsman, Ill. Mr. Browning reserved the privilege of showing them in the eastern fair circuit and the Panama Pacific Exposition. As there is perhaps no herd in the United States that is better known than the Browning, California may consider itself fortunate that some of this stock is coming to the State.

A. H. Brinton of Woodland called at this office this week and informs us that the 8 gilts and the boar, Symboleers Duke, which he brought from Illinois last fall just before the foot and mouth disease quarantine was placed on out-of-State shipments, are doing exceptionally well, and that the fall litters are now being farrowed. Mr. Brinton states

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Per Ton	$23.00	$23.00	$23.50	$24.00

f.o.b. Southern Pacific cars in 20-ton lots.
Cartage in less than car lots: 1 Ton or more, 75c per ton; Half to 1 ton 75c; Half ton 50c; 1 or 2 sacks 25c.
Terms: Net cash, immediate payment. Prices subject to change without notice.

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OUR FLOCK HEADERS ARE:
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OUR 1914 WINNINGS:
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All Stock Registered.
Bulls of Highest Quality.
YOUNG SOWS AND BOARS
of finest
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LARGE AND MEDIUM TYPE

A Wonder and Giantess Stock.

Prize-Winners of either type. Several very fine young boars and a few bred sows for sale.

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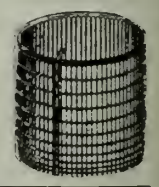
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in lots to suit.

These sheep are large and in fine condition. Can be seen near Firebaugh. Price on application.

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LOSSES SURELY PREVENTED by Cutter's Blackleg Pills. Low priced, fresh, reliable; preferred by Western stockmen because they protect where other vaccines fail. Write for booklet and testimonials.
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Use any injector, but Cutter's best.
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Live Stock Auctioneer

Sales conducted in all parts of the State. Twenty-six years' experience. Write for terms.
LINDEN STOCK FARM — Horses, Mules, Shropshire Sheep, Berkshire Hogs for sale.
704 Market St., San Francisco.

that he expects to keep in the neighborhood of 10 brood sows on his ranch and will specialize on hogs and Jersey cattle more extensively than he has in the past.

A swine show to be held sometime in November at Lemoore is under consideration by the members of the Boys' Pig Club of the agricultural department of the Lemoore Union High School. At present the members are engaged in a feeding contest under the auspices of the University.

MISCELLANEOUS.

Following fresh outbreaks of the foot and mouth disease, the Union Stock Yards at Chicago were again placed under quarantine.

T. J. Maynards of Hayward has a fine herd of 40 milch goats, 18 being registered Toggenbergs and the balance high grades of the same breed. He states that they give one to six quarts of milk daily.

It is the intention of Kings county breeders to make that county a central point for purebred auction sales, and many fine stock sales of that character are being promoted for the fall.

Sixty-six squirrels were killed by J. B. Thorpe last week while irrigating a piece of alfalfa. Whatever Mr. Thorpe does, he does with all his might, whether it be breeding Jersey cattle, Duroc hogs, or killing squirrels.

The H. B. Goechen ranch of Contra Costa county was recently visited by the Pacific Rural Press representative, and a fine lot of registered Berkshire hogs and Holstein Friesian cattle were found. Mr. Goechen is one of the oldest Holstein breeders in the State. Burbank spineless cactus has been planted on three acres of this ranch, and last winter over 150 tons were cut and fed to the hogs and cattle.

FRESNO TO HAVE BIG FAIR.

The premium list for the Fresno District Fair, which will probably be the only District Fair held in the State this year, has just been issued by the directors.

The date of this year's fair has been set at Sept. 28 to Oct. 2, and in line with their annual progress which has been characteristic for the past few years, a material raising of premiums has been made.

In the livestock division, beef cattle classes have been raised from a little over $200 to $286, Shorthorns, Herefords, Angus, and Red Polls being provided for. Dairy cattle classes show the same increase in prizes, Holsteins, Jerseys, Guernseys, Ayrshires, Dutch Belted, and Brown Swiss being afforded individual classes.

Under swine classification, Berkshires, Poland Chinas, Duroc Jerseys, Tamworths, Hampshires, Mulefoot, Essex, and Small Yorkshires are offered prizes totalling $107 for each breed.

Shropshire, Spanish Merino, Rambouilette, Southdown, Persian, Cotswold, and Hampshire sheep are offered $85 for each of their respective breeds.

A total of $199 is offered each of the following breeds of horses: Percherons, Shires, Belgians, Clydesdale, thoroughbreds, and standard breds. Prizes for grade horses aggregate a total of $160, colt prizes $52.50, and mules, jacks, and jennets, $263.50.

Poultry and Pet Stock will as usual be a big feature of the fair, liberal premiums being provided for the various divisions and classes.

Horticulture, woman's department, educational department, viticulture, automobile, and farm implements are all provided for in a most liberal manner.

As special free attractions, the directors have made plans for a historical pageant at a cost of $15,000, which will be held Tuesday, Wednesday, Thursday, and Friday, which will show all of the features of early-day California. Saturday will afford thrills to visitors with a 150-mile auto race for a purse of $5000.

Intending exhibitors should write at once to C. G. Eberhart, Secretary and Manager, Chamber of Commerce Bldg., Fresno, for entry blanks and premium list.

THE CALIFORNIA HOG BUSINESS.

"Whenever the demand for a product exceeds the supply, the business of producing it should be on a safe basis as far as marketing is concerned. This is the situation as regards the production of pork in California," says W. S. Guilford, Director of Agriculture of the Sacramento Valley Irrigation Co. at Willows in Glenn county, and an authority on hog growing, who has made a close study of conditions in the State.

"We are consuming much more pork than we produce," he continued, "and while exact figures are not available, population is undoubtedly increasing faster than the production of hogs.

"This makes a bright business outlook for those who are in the business, have good breeding stock, comfortable, convenient and sanitary quarters, and plenty of good feed; and for any who may engage in it similarly equipped."

Moving pictures and phonograph records for the rural schools, to be supplied by the State, for use in school work and community gatherings, is a recommendation of the State Board of Education in its first biennial report just issued for distribution to those who ask the Board for them.

Copy for the new "California Hog Book" has been given to the printer and the pictures to be used to illustrate are in the hands of the artist. The book will be of great value to the swine industry and will be ready for distribution sometime in September. Price $2 postpaid.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

DAIRY CATTLE.

REG. HOLSTEINS—We offer choice grandsons of King Segis, also grandsons of the world's record cow. Creamelle Vale; blood that increases the value to your herd. Write or call and see our herd. F. H. Stenzel, San Lorenzo, Cal.

FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

FOR SALE—About 60 head of fine dairy heifers from 6 month to 2½ years old. Grade Jersey and Holstein, J. S. Smith, 226 Alameda Ave., San Jose, Cal.

REGISTERED HOLSTEINS—Young bulls sired by King of Riverside and Lakeside Model Prince from A. R. O. fame. J. R. Harlan Co., Woodland.

FIVE REGISTERED HOLSTEIN cows and four heifers priced for quick sale. K. W. Abbott, Milpitas, Cal.

REG. JERSEYS—Herd established 1868. Young bulls from best cows. Rancho Dos Rios, R. 2, Modesto.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

HOLSTEIN BULLS—Pure-bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

SUNNYBROOK RANCH, WILLITS, CAL.—Breeders Registered Holstein Stock. Young bulls for sale ready for service. Sired by De Kol Fobes Homestead 6th. Prices reasonable.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

AYRSHIRES—For sale, fine young bulls from Imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

REG. GUERNSEY BULLS for sale. Grapewild Farm, Mayhews, Sacramento county, Cal. A. B. Humphrey, Prop., P. O. Box P.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class, thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

REGISTERED HOLSTEIN BULLS—Serviceable age. From finest strains. Panama Pacific Dairy, Sutter Creek, Cal.

JOHN LYNCH, breeder of Registered Shorthorns. Milk strain choice. Young stock for sale Box 321, Petaluma, Cal.

REGISTERED JERSEL BULL CALF—Six months old—a fine animal. $40 if sold soon. O. J. Ames, Oakdale.

HOLSTEIN-FRIESIAN CATTLE and Berkshire Hogs. H. B. Goecken, Breeder, Goecken Heights, Livermore, Cal.

REGISTERED GUERNSEYS—Both sexes for sale. Mrs. Charles G. Lathrop, Stanford University, Cal.

REGISTERED HOLSTEINS—A. W. MORRIS & SONS, Corp., Importers and Breeders, Woodland, Cal.

REGISTERED HOLSTEIN BULLS from A. R. O. dams. J. W. Benoit, R. 2, Modesto, Cal.

CREAM CUP HERD—Registered Holsteins. Pontiac hull calves. M. Holdridge, Modesto, Cal.

REGISTERED JERSEY CATTLE—Young stock for sale. W. J. Hackett, Breeder, Ceres, Cal.

PELANDALE HERD of Reg. Holsteins. Young bulls for sale. J. A. Pelanda, Salida, Cal.

SUNNYSIDE HERD—Registered Holstein cattle. R. F. Guerin, R. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma.

A. R. O. REGISTERED HOLSTEIN BULLS for sale. Millbrae Dairy, Millbrae, Cal.

BREEDERS OF REGISTERED HOLSTEIN CATTLE—McAlister & Son, Chino, Cal.

BREEDER of Registered Holstein Cattle. Ernest Otto McClure, R. 2, Modesto, Cal.

LINWOOD FARM—Registered Holsteins and Imported Guernseys, Santa Cruz, Cal.

N. H. LOCKE CO., Lockeford, Cal.—Choice young Jersey bulls for sale.

PACKWOOD FARM HERD for Holsteins. W. F. Mitchell, Visalia, Cal.

HORSES AND MULES.

PURE-BRED Registered Percherons—A few choice young stallions two years old; also two, three and four-year-old fillies, majority in foal, for sale. Los Altos Stock Farm, Los Altos, Cal.

BEEF CATTLE.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Shortborns. Villager and Avondale strain. Yearling bulls for sale.

HOPLAND STOCK FARM—Registered Short-horns. Prices on application. Hopland, Cal.

SIMON-NEWMAN CO., Breeders of registered Herefords. Newman, Cal.

TWENTY Shorthorn Bulls from Nebraska. G. A. Murphy, Perkins, Cal.

SWINE.

I HAVE ANOTHER CROP of **seventy-five head of Big Type Poland China Boars, born in February, sired by Iowa Wonder, who is a son of A Wonder, the Greatest Poland China Boar, Living or Dead. Iowa Wonder is in the 1000 lbs. class.** One of his sons **from one of my** good registered sows should make you **money. I will** sell the best first. On account of being overstocked will sell them at $20 each while they last, but they will not last long at this price, so act quick if you want an extra good boar for little money. Geo. A. Smith, Corcoran, Cal.

BILLIKEN HERD of pedigreed O. I. C. Swine; weaned pigs of both sexes ready for immediate shipment; pairs and trios mated, not akin. All from big type stock of extra heavy bone. Immunized against hog cholera, crated and registered free. Write for descriptive circular and price list. C. B. Cunningham, Mills, Sacramento County, California.

BLUE-RIBBON HERD DUROC-JERSEY HOGS—Bred Gilts a specialty. 15 bred now. 20 ready to breed. Sires and dams win all blue ribbons 1912, 1913, 1914 State fairs. 15 first, 13 seconds, 6 thirds, 7 fourths, 1 fifth. Will show 1915. For prices, write John P. Daggs, Modesto, Cal.

BERKSHIRES—Headed by Bandmaster 2nd, junior champion Iowa State Fair. My females were winners at Iowa, Wisconsin and Minnesota State Fairs. Farm at San Mateo. Address W. M. Caruthers, 218 Hearst Bldg., San Francisco.

BLATCHFORD'S PIG MEAL weans easily and safely; no trouble; no milk. Write for free folder, "The Safety Route from Pighood to Porkage." Coulson Co., Petaluma.

REGISTERED POLAND-CHINAS — Prize-winning Nebraska stock. Large type. Young pigs for sale. Absolutely guaranteed. Hale I. Marsh, R. 4, Modesto, Cal.

POLAND CHINAS—Young stock; either sex. Write for pedigree. Reasonable prices. Edwd. A. Hall, Watsonville, Cal.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Duroc and Berkshire Swine. Weanlings for sale.

BARGAINS—Two fine Duroc-Jersey Boars for sale at half their value. "Jim" No. 4 from R. D. Beauty No. 122721. Also Chief No. 54 from Red Wonder 97295 One and two years old. Western Hog and Land Syndicate, 919 Hearst Bldg., San Francisco.

BARGAINS—Big type Duroc-Jersey sows at great bargain. Will farrow in September by thoroughbred boar. Cholera immune. Make 100 per cent by buying one or more of these sows now. Western Hog and Land Syndicate, Inc., 919 Hearst Bldg., San Francisco.

REG. BERKSHIRES—Fine 3 months old pigs, both sexes, by Panama Lee, Gold Medal Winner at 1914 State Fair. Also bred sows. C. E. Barrows, Los Molinos, Cal.

REGISTERED DUROC-JERSEY GILTS—14 to farrow in September. Also some Spring gilts. Foundation stock from Daggs and Ed Johnson herds. R. J. Ross, Modesto.

REGISTERED BERKSHIRE SWINE—All ages, for sale. Grapewild Farm, Mayhews, Sacramento, Cal. A. B. Humphrey, Prop., P. O. Box P.

REGISTERED, PUREBRED BERKSHIRE PIGS—(Weanlings) both sexes. Reasonable prices. Write for full information. J. E. Hall, Sebastopol, Cal.

DEL DAYO FARM—(Old Haggin Bottom Ranch)—Breeders of Registered Berkshires, both sexes for sale, P. O. Box 1140, Sacramento, Cal.

PLAINFIELD STOCK FARM—Registered Berkshires and Durocs. Young stock for sale, both sexes. H. M. Bullard, Woodland, Cal.

REGISTERED BERKSHIRE SOWS and their weanlings. Quality, health and vigor. Boars, all ages. B. H. Wilson, Turlock, Cal.

GLENVIEW POLAND-CHINAS—Baby pigs from best families for sale. From $15 up. Chas. R. Hanna, R. 3, Riverside, Cal.

IMPERIAL STOCK FARM BERKSHIRES—Quality and price guaranteed to satisfy. R. J. Merrill & Son, Morgan Hill, Cal.

REGISTERED BERKSHIRES — Weanling boar pigs, $10.00 each. A few older boars. J. M. Bomberger, Modesto, Cal.

LINDEN STOCK FARM—Registered Berkshires, both sexes, all ages, best of breeding. Write for prices, Linden, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford.

BERKSHIRES—Pedigreed Boars ready for service. Also pedigreed weanlings. C. H. Thompson, Novato, Cal.

REGISTERED POLAND-CHINA HOGS—Cholera immune. W. D. Trewhitt, Hanford.

POLAND-CHINAS—Prize-winners. Money-makers. B. Bernstein, Hanford, Cal.

HOPLAND STOCK FARM — Registered Berkshires. Prices on application. Hopland, Cal.

POLAND-CHINAS—Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

FINE REGISTERED BERKSHIRE PIGS—Write or call Greenwood Ranch, R. D., Brentwood, Cal.

REGISTERED POLAND-CHINA HOGS—J. W. Wakefield. Acampo.

REGISTERED POLAND-CHINA HOGS—Clark Bros., R. 4, Lodi, Cal.

POLAND-CHINAS — Prize-winners. Satisfaction or money back. Geo. V. Beckman, Lodi, Cal.

REGISTERED DUROC-JERSEY SWINE—Las Pederas Ranch, El Cajon, Cal. M. S. Allen, Manager.

REGISTERED POLAND-CHINAS — Young stock for sale. Hewitt & Hewitt, Hardwick, Cal.

DUROCS—Weanlings and a few choice bred gilts. H. E. Boudler & Son, Napa, Cal.

KNOB HILL STOCK FARM—Registered Poland-China swine. A. M. Henry, Farmington.

REGISTERED POLAND-CHINAS and Duroc Jerseys. T. H. Beckman, Lodi, Cal.

REGISTERED DUROC-JERSEYS from Eastern sows. B. S. Southworth. Napa, Cal.

ROADOAKS RANCH herd of registered Poland Chinas. W. J. Hanna, Gilroy.

REGISTERED BERKSHIRES—Young stock for sale. F. W. White, Elk Grove, Cal.

BERKSHIRE BOAR PIGS—Butte City Ranch, Butte City, Glenn Co., Cal.

CHAS. GOODMAN, Breeder of high-class Berkshire Swine, Williams, Cal.

POLAND CHINA HOGS—Registered. R. J. Miller, Llewellyn Ranch, Lathrop.

DUROCS—A few bred gilts, boars and gilts left. E. C. Curtis, Napa.

REGISTERED O. I. C. SWINE—C D CONWAY, Lakeport, Cal

POLAND-CHINA HOGS—C. A. Stowe, Stockton, Cal.

SHEEP.

FRANK MEACHAM, Petaluma, California.—Breeder Shropshire, Ramhouillets, American Merinos, both sexes. Take electric car at Santa Rosa or Petaluma for Live Oak

SHROPSHIRE LAMB BUCKS—Yearlings and two-year-old rams for sale. J. R. Bloom, Dixon, Cal.

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers, Shropshires.

BULLARD CO.—Breeders and Importers of Rambouillets, Woodland, Cal.

MISCELLANEOUS.

ALFALFA SEED—If you are going to be in the market for Alfalfa Seed, get into communication with us at once. Will soon be harvesting the new crop. Booking orders now. Write or wire. V. A. Peterson Alfalfa Seed Co., Arbuckle, Calif.

WANTED — 150 or more stock cattle. Mostly heifers two and three years old. State price. Peter Heitman, Yerrington, Nevada.

BREEDER of Registered Holsteins and Poland China Swine. E. E. Freeman, R. 5, Modesto, Cal.

Veterinary Queries and Replies.

[Answered by Dr. H. H. Wintringham, Petaluma, Cal.]

OVER-FED CALF.

To the Editor: I have a little calf 4 weeks old. Every time it gets a cud in its mouth, it splts some of it out. She is nice and fat and is growing well. She gets milk and green alfalfa every day.—S. S., Chico.

Don't feed this calf so much.

ACNE, A SKIN DISORDER.

To the Editor: I am sending scabs from my horse. Please tell me what the disease is and what to do for it.—J. L. R., Los Gatos.

This is Acne. Give Fowler's Solution of Arsenic in ½ oz. doses three times a day and give plenty of cooling substances in the diet, such as bran, greens, etc.

WOUND WITH "PROUD FLESH."

To the Editor: I have a colt three years old which pawed into a barbed wire fence last March. She nearly cut her front hoof off. I took her up in the stable and immediately bandaged the foot. The cut filled out slowly, but as soon as commenced to heal she also started in to gnaw the heel of her foot near the cut. I tied her head up so she could not reach it any more. The cut healed up nicely, but where she gnawed it never seemed to heal. It formed a soft scab and whenever you touched it it would slip off. I called on a veterinary and he told me to burn it with a hot iron. It then seemed to dry up. A week after I burned some that was still raw. Afterwards it healed up pretty well. Two weeks ago I turned her in a small lot for exercise, as she had been tied up for five months, and after a few hours she had her foot raw again, a spot the size of a silver dollar, and every chance she gets she rubs it with her nose.—R. M. M., Loomis.

This trouble is due to proud flesh. Tie the colt up so she cannot get at it with her mouth and keep her tied up until healed. Paint the raw place with the following three times daily: potassium permanganate 4 drachms, water 8 oz. Shake well before using.

COW POX AND HEN BLINDNESS.

To the Editor: I bought some calves from a dairy and put them on my wet cows. The cows since then have broken out with udder boils and pass pus with their milk. These boils swell, come to a head and after being lanced dry up and disappear. Can this be cow pox? The dairy was at one time infected.

One of our hens set for about two weeks and then went blind. She is free from lice and was setting in a cool place free from draughts. Her eyes are as clear as ever. As she is a pet and a fine Minorca we are anxious to save her. Can you name the reason and suggest a remedy for her blindness?—W. A., Brown's Valley.

This is very probably cow pox. Use mild antiseptics to wash the udders daily.

Your hen's blindness is due to nervous trouble which is sometimes caused by change in blood pressure from long changes in attitude. Give her nourishing food and wash the eyes and head daily with a saturated Boric Acid solution. As to whether she recovers will depend on how badly the nerves have been damaged and this will take time.

A CASE OF GARGET.

To the Editor: About six weeks ago we noticed that after the butter had been made about twenty-four hours from our cows' milk it had a bad odor and taste. This has grown worse until now the milk smells and tastes bad when milked. The milk looks all right, but when stralning lumps gather on the strainer which nearly stop the flow. These lumps look something like those seen when cow is about dry. The cow eats well and seems in fine condition.—E. A. S., Ontario.

This is Garget. Give the animal potassium iodide in two-drachm doses three times a day for one week, then skip a week and give the treatment again for one week.

SCABS ON RABBIT'S EARS.

To the Editor: I am enclosing herewith scabs from rabbit's ears for analysis, so you may tell me the trouble and treatment. — E. P. O., Livermore.

This is the Psoroptes Communis vari Cuniculi. Lime-sulphur wash is a specific for this trouble.

HORSE URINATION.

To the Editor: My horse, five years old in August, weight between 1300 and 1400 lbs., will get into the position of urinating from one to five or six times previous to urinating. I thought it might be the beginning of a habit as it first came to my notice while working him, but by watching I discovered that he also does the same when out of harness. This is the same animal for which Dr. H. B. Wintringham prescribed an ounce of saltpetre in the feed twice a day, some few weeks ago. Will you kindly ask Dr. Wintringham whether or not I should continue the saltpetre treatment and for how long? I gave the horse the treatment for over two weeks, as the first week's treatment did not bring results, or will the doctor prescribe again?—R. H. M., Orangehurst.

Discontinue the saltpeter and give the following: Urotrepin 4 oz; Sodium salicylate 4 oz; Sodium Benzoinate 4 oz; Fluid extract Uva Usi 8 oz.; water enough to make one pint. Give one ounce three times a day.

CAKED UDDER.

To the Editor: I have a cow freshened the 23d inst., 9 days overdue, but as yet gives no milk, or only about a quart at a milking. She is 8 years old, runs in pasture and gave 5 gallons a day all last season. She had no trouble of any kind at calving and is in good health and fat.—A. V. S., Santa Rosa.

This is most probably due to caked udder. Massage the udder for at least 15 minutes night and morning. Give two-drachm doses potassiuu iodide in two ounces water twice a day on an empty stomach.

NEEDS TEST FOR TUBERCULOSIS FIRST.

To the Editor: I have a cow that seems to breathe very rapidly, especially in the heat of the day. The milk when clabbered is very slimy and sticks to the bottom of the milk pans. She has plenty of shade and lots of water, and we feed alfalfa only.—M. J. S., Morgan Hill.

Have this cow tested for tuberculosis. It will be time enough to treat her for other trouble if she does not react to the tuberculin test.

CONTAGIOUS ABORTION.

To the Editor: I have Jersey cows that have lost calves and I cannot get them with calf again. Some of them will come in heat regularly and others will go for two months or more before coming in heat. The calves aborted were nearly mature. What is the cause and remedy? Am afraid it is contagious abortion.—R. R. T., Turlock.

This is Contagious Abortion. Read article appearing in the January 9th issue of this paper on this subject.

BOVINE TAPE WORM.

To the Editor: I have a six months old heifer calf which I have raised by hand. I discovered her walking around the corral with a queer tape hanging out of her rectum. I took hold of it and pulled it out about 2 more inches when it broke off. There are two of them, the longest one trailing on the ground.—J. E., Oakville.

This is bovine tape worm. If you did not thoroughly disinfect your hands after handling the worm you stand a very good chance of having infected yourself. Give the cow the following: Oil of turpentine, 3 oz.; oleoresin of male fern, 1 oz.; raw linseed oil, 1 quart. Give this at one dose and repeat in one week if necessary.

There is a Big Difference in SILAGE



THE SUCCULENCE and PALATABILITY of perfect ensilage produces maximum results at a low feeding cost.

NO OTHER FEED contains as much "succulence value" as well preserved ensilage.

IT IS THE MOST ECONOMICAL FEED for summer as well as for fall and winter.

BUT THERE IS AS BIG A DIFFERENCE in silage as there is in silos.

AN ABSOLUTELY AIR AND WATER-TIGHT silo is needed to produce good silage.

IT MUST NOT LEAK OUT THE JUICES or admit the air to the silage.

TO MEET THESE REQUIREMENTS, a silo must be of such design, material and workmanship that it will be for many years just as serviceable as when first erected without its being necessary to rebuild every year.

THE IDEAL GREEN FEED SILO will keep ensilage as fresh and succulent all the year as the day the corn was cut.

ERECT AN IDEAL GREEN FEED SILO and stop silo troubles forever. Built of California redwood; it will last a generation.

SEND FOR SPECIAL SILO CATALOG B

JAMES BARN EQUIPMENT ALPHA ENGINES

VIKING ROTARY PUMPS

De Laval Dairy Supply Co.

SAN FRANCISCO SEATTLE

EVERYTHING FOR THE DAIRY

Hillcrest Stock Farm

THORNTON S. GLIDE, Prop., Davis, Cal.

Breeders of

Short Horn Cattle

Shropshire and Merino Sheep

ATTENTION, SHEEPMEN.

My pure-bred, range-raised yearling Shropshire and Merino rams are now out of the mountains and ready for inspection at my place.

Shropshires sired by rams imported by me from England in 1911.

Short Horn Bulls

7 Choice Registered Tuberculin-tested Short Horn Bulls, aged 14 to 20 months. If interested, write or call immediately.

H. L. MURPHY, PERKINS, CALIF.

HOPLAND STOCK FARM

HOPLAND, CAL.

Standard Bred S. C. White Leghorn Cockerels, selected for Breeders. Four months old, $12 per dozen; Yearling Hens, $12 per dozen. Standard Bred White Plymouth Rock, Fishel and Owen Farm Strains Direct. Hens one and two years old $18 to $24 per dozen. Four to five months old pullets, $18 per dozen. Selected Cockerels and Cock Birds, $5 each and up.

Silo Types and Filling.

Tho the Editor: Will you kindly advise me as to silos? I am thinking of putting up a home-made silo, made from two by four, rapped by half inch and then lined with the building paper, then rapped once more with half inch lumber. This will cost me about $100 less than a stave silo. Now what I want to know is do you think it would be as good as a stave? One party said the air gets into a stave silo and had lost cows from bad silage, also will you tell me how to fill a silo? This is a dry climate here.—D. J. A., Esparto.

[From our observation of silos in the interior valleys we do not believe that the resaw and studded type is the one best suited for permanency. It is true that a great many of them have been erected and very often their owners are well satisfied with them. This is due we believe to the fact that loss of silage is not fully taken into consideration or that they have not been used for a sufficient length of time to tell what the ultimate results are. The constant shrinking and swelling which occurs in sections having long dry summers and wet winters is certain to cause checking and cracking in lumber which is nailed rigidly. In time these cracks and checks let in a certain amount of air and in this way considerable spoilage results.

Providing the stave silo is made by some reputable silo firm, and not simply a by-product of some local lumber dealer, who has not given the subject of construction any particular attention, there is less likelihood of spoilage in this type if the hoops are loosened and tightened at the proper time. For a permanent silo we should prefer the stave type. It was very likely moldy silage which caused your neighbor to lose his cows and this would not have happened had his silo been perfectly tight when filled and the hoops gradually loosened as the need arose.

In filling your silo you will need a mechanically driven silage cutter with blower attached. Adjust the knives to cut the corn about one-half or five-eighths inch long. Cut the corn as soon as the ears begin to glaze, between the milk and ripe stage. Use a corn binder, knife, hoes or other tools which will cut the stalks close to the ground. Haul the corn to silo on wagons, two or more being advisable as there is less loss of time with more wagons; cut and haul the same day when possible. When filling is started see that all of your silo doors are securely fastened and air tight. The blower spout enters the silo at the top from which a loose jointed spout can be attached, extending to within a few feet of the bottom of the silo. One man should work inside of the silo, (and it would be better to have two) distributing the silage with pitch forks. Direct the spout around the outside edge till it is built up three or four feet higher than the middle. Carefully tramp the silage along the outside edges, as this is where the air will enter and the closer the silage is packed the less chance there is for spoilage. After building up the edges allow the spout to run in the center till a pyramid bas been built there, and then build up the sides again. It is not necessary to tramp the middle as the natural settle is sufficient, but be sure that a good job is done on the edges.

If the corn is not too far advanced the addition of water is not necessary, but to be on the safe side many prefer to have a half-inch hose full of water running into the cutter all of the time. The additional moisture does not do any harm and may insure good silage if the corn is a little past the proper stage. To prevent an unduly large amount of spoilage on top of the silage put a thick layer of straw on. This will exclude a large amount of air till feeding is started. Filling need not be continuous if you remove all damaged silage from the top before again starting again.—Editors.]

MANGY PIGS.

To the Editor: Can you tell me a good remedy for a kind of mange in pigs? Their skins seem to get thick and wrinkled and itchy, the hair standing straight and mostly falls out.—Subscriber, Thalheim.

This is mange. Make a dipping tank and dip these pigs twice a week in a 2 per cent solution Liquor Cresolis Compositus covered with ½ inch crude oil twice a week.

WASH AGAINST FLIES.

To the Editor: Will you please tell me how to make a good spray that will keep the flies off and leave the hair on horses?—R. E. C., Sebastopol.

Fish oil, 1 pint; Liquor Cresolis Compositus, 4 oz.; Neutral oil enough to make one gallon.

Dairy cows in the vicinity of Dinuba were reported free from disease after careful inspection by the State Dairy Inspector and the County Veterinarian.

Oak Grove BERKSHIRES

CHOLERA IMMUNE

Our herd is Cholera Immune, the only Immune Berkshire herd in the State.

Five herd boars in use and they are second to none on the coast. Our sows are of equal merit.

We have at present some 300 Berkshires and we know that we can supply what you want.

Write Us or Call.

OAK GROVE DAIRY FARM

H. G. ARMSTRONG, Prop.

Woodland, Cal.

Swineland

TAMWORTHS, DUROC JERSEYS

We have for sale. fine young stock, both sexes; also boars ready for service and bred sows. No better stock in this State. We have recently. moved our big breeding establisbment from Yuba City to Woodland.

Write or call and see us.

SWINELAND FARM.

W. O. PEARSON, Prop. WOODLAND, CAL.

THE GUERNSEY

stands for Economical production. More profit from every pound of feed. Do you want cows that will improve your Dairy? Write for free literature.

Guernsey Cattle Club,
Box E Peterboro, N.H.

THE TWO GREAT SALES!

COMBINATION SALE!

A. W. MORRIS & SONS, Corp., Woodland.
McALISTER SON, Chino.

State Fairgrounds, Sacramento, October 6-7, 1915

175 REGISTERED HOLSTEINS 175
Tuberculin tested.

Far and away the Greatest Sale ever held in the West and in respect to Individuality and Yearly Records the Greatest in the World.

COWS:

The sale consists of about 50 advanced registry cows with records as high as 31 lbs. butter in 7 days, and include a large number of cows with large yearly records. Many are daughters of some of the greatest sires of the herd.

HEIFERS:

There will be close to 100 heifers in the sale and nearly all from tested dams. Included in this number are ten daughters of King Segis Pontiac Emperor, senior herd sire of A. W. Morris & Sons, ten daughters of Lorena Korndyke, winner at State Fair for 4 consecutive years; twenty daughters of King Pontiac Topsy, one of the best sons of King of the Pontiacs; and five daughters of De Kol Hengerveld Burke.

BULLS:

The most extraordinary lot of bulls ever offered at public sale will be sold, including **King Segis Pontiac Emperor,** Senior Herd Sire of A. W. Morris & Sons and the best bred son of King Segis Pontiac, sire of the $50,000 bull and $20,000 bull calf. **Lorena Korndyke,** the great show bull, a son of the world's champion cow for two consecutive years as a 3 and 4 year old, son of a 31-lb. cow, and son of a cow with a yearly record of over 1000 lbs. butter—and many other bulls of lesser merits—all out of high record dams.

A FORTUNE!

The calves out of the cows and heifers will represent a fortune, sired by sons of Tilly Alcartra and Riverside Sadie De Kol Burke, who hold every world's milk record from 7 days to 3 years, Aralia De Kol. the first cow to make 28,000 lbs. milk in 1 year, and King of the Pontiacs.

TERMS:

This should attract you: $500 and under, cash; over $500, one-third cash and balance in 3-6-9 months, with bankable paper and 8% interest. 3% discount for cash will be given for cash on time sums.

FOR CATALOG WRITE

COL. B. A. RHOADES, Auctioneer.
or
F. L. Morris, Woodland, or James W. McAlister, Jr., Chino.
Sales Managers.

California Breeders' Second Consignment Sale

Hanford, October 14th and 15th.

175 REGISTERED HOLSTEINS 175
Tuberculin Tested

BIGGER and BETTER THAN EVER

CONSIGNORS:

R. F. GUERIN, Visalia.
HEWITT & HEWITT, Hardwick.
McALISTER & SON, Chino.
ALEX. WHALEY, Tulare.
W. J. HIGDEN, Tulare.
E. O. FAWCETT, El Monte.

and the entire herd of 60 head owned by
C. C. LESTER OF GILROY

The above breeders of statewide reputation who promise you good cattle and good treatment.

GREAT RECORD COWS!

About 25 A. R. O. cows will be sold with records as high as 29.90 lbs. butter in 7 days made as 4 yr. old.

DAUGHTERS OF GREAT RECORD COWS!

About 30 daughters of great record cows, including a daughter of a 30-lb. cow—2 daughters of the 29-lb. cow—a daughter of the 24-lb. 3-year-old and daughters and granddaughters of great sires, such as Colantha Johanna Lad, Homestead Girl De Kol, Sarcastic Lad, King of the Pontiacs, Pontiac Hengerveld Parthenia, Anselmo, Sir Korndyke Hengerveld De Kol and others.

Bred to Sons and Brothers of World's Champions.

Most of the females will be in calf to such famous sires as Tilly Alcartra Son, son of the World's champion milk cow, Arcady Wayne Pontiac Hengerveld, Judge Hengerveld De Kol 6th. Sisters of world's champion cows—Prince Juliana De Kol Walker. Son of the former world's champion heifer and King Segis Pontiac Emperor 3rd, a son of the famous sire, whose name he bears and out of a cow with a record of 872 lbs. butter in one year. This great young bull will be sold.

A GREAT LOT OF YOUNG MALES
Will be sold. Read about them in future issue.
For Catalog write:

COL. B. A. RHOADES, Auctioneer.
JAMES W. McALISTER, JR., Sales Manager.

Farm Poultry for Profit.

Written for Pacific Rural Press by Susan Swaysgood, Pomona

CHICKEN CHATTER.

At this time of year there is not so much need of a long sermon as there is for a few pertinent remainders to keep folks not from backsliding, but from forgetting.

Hens for Next Year.—Almost everybody has swatted the rooster, or moved him to bachelor quarters. Those who are thinking of the present dime, forgetful of the future quarter, are putting their breeders through a forcing period by cramming them to get extra eggs. I believe in a generous diet during the molt, but I don't believe in forcing hens that are to be kept over for another year, either as layers or breeders, because they will retaliate and be shy on laying just when you need them. So it is a good idea to see that the hens have plenty to eat, green feed included, plenty of fresh water and air, and let well enough alone without giving too much stimulating feed to force eggs, unless the hens are to be disposed of later.

Culling.—This is a good season of the year to do a good job in culling both with old stock and young. Of course with young stock you will merely go on health and vigor, looks and disqualifying marks. But with the old stock that you have been handling a year or two, there has been time to notice nearly all their shortcomings.

To be a good useful hen, of any breed, there must be certain traits that will be noticeable, also a certain amount of intelligence; a stupid hen never amounts to anything except to fatten for table purposes. A hen with good intelligence can always be relied on to be a good layer, a good setter and mother. A stupid lazy hen does not know enough to go in out of the rain, eat her feed properly without tramping it under foot, nor does she actually know how to go to bed right. As a rule you will find her slumped down on the ground in a corner, and if you pick her up and put her on the perch, she is too lazy to grasp the perch with her toes and slumps down again. If you venture to give her a setting of eggs she sprawls all over them and you will find eggs all over the nest—what she does not break. An intelligent hen will draw the eggs under her in as nice a compact nest as possible and sit on them lightly, because her brain has a spark of light that tells her she is setting on eggs, not on paving stones. These little things can all be learned by observation by anybody who takes the time, and they pay big interest. It need not be "how many chickens can I keep on a certain amount of land," but how many chickens can I make keep me if I give them proper care and watch the little things.

Midsummer Madness.—In Los Angeles a land and investment company are hiring what they call successful poultry women to give free lectures; of course the investment company pays the lecturers, to tell marvelous stories of fortunes to be made on one and two acre poultry farms.

We have plenty of good laws in this State, but there does not appear to be any law to prevent people from exaggerating. One woman tells that she made $14,000, in one year from one acre of poultry. Now I am awful sorry that I did not take lessons from that woman years ago, because if that is true, look where I could be now in finance. It almost, not quite, makes me jealous. Why, instead of working in a poultry yard now I could have a limousine and hire a chauffer to drive me around. I would not even need to lecture. Such statements won't bear investigating, but some people are sure to be led away by them and have to learn from experience that "all is not gold that glitters," even in chickens.

Waste in Feed and Foodstuffs.—I lately bought a few sacks of mash feed that contained so much dirt that when water was added it showed nearly black.

If I had not moistened it and the chickens had eaten it—well, it would have passed undetected, but the fact that the young stock did not eat it up clean caused me to moisten it and then I found why they had not eaten it up with a relish. Of course, being ground up it was not easy to detect, and all millers use up their sweepings, so it happened that I got considerable sweepings. Now feed is too high to pay for sweepings; and we get it in grain too, which makes quite a big loss. There is but one way I can see out of this and that is to patronize the feed men who give us nothing but clean feed and grain. If we pay 2 or 2½ cents a pound for wheat and get from ten to fifteen pounds of dirt in the sack it is going to cost over 3 cents.

About Shrinkage.—Sometimes it is a good thing to know a few things about the shrinkage of poultry in transportation. I recently shipped a coop of hens, 24 in count, of which the net weight was, when they left Pomona, 160 pounds. They had no food since the night before and were caught out of the yard in early morning and shipped on 7 a. m. train. The firm the hens were billed to got them about noon, making the time between feeding and arriving there about 17 hours and the shrinkage was just five pounds for the 24 hens.

I never feed the day I ship when they are going to market, counting it just loss, because the buyer knows if they are full of feed and in making his deductions for shrinkage, be sure he will allow enough to cover the feed, so you are paying express on weight you will never be paid for. There is nothing new under the sun; men are always up to all the schemes other men can think up to cheat with, and it is simply another case where honesty is the best policy. This coming week I am going to ship some broilers to San Francisco and in that case will feed before starting them because of the distance and time it will take to reach their destination. Naturally all food will have passed through them before arriving at San Francisco and the shrinkage will be a little more than it would be to Los Angeles, but at present quotations that loss will be fully covered by the difference in price.

About Incubators.—This is a good time to clean up all the incubators that have been in use, also brooders that are done with for the season. One young lady wrote me that she hatched ducks in an incubator last year and that she really thought she never would get it sweet again, but she bought a copy of "California Poultry Practice" from the office. and her incubator is now as good as



Now is the Time to Feed
Coulson's Egg Food

to your pullets as well as your hens, commencing at the age of three months.

Write for free book "Chickens" from shell to market.

COULSON CO.
Petaluma, Cal.



Poultry Breeder's Directory

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

BABY CHICKS—Fall is here and now you should order the chicks you want for eating next Christmas and for Spring layers. Strong healthy chicks that get there right. August and September prices. Per hundred: White Leghorns, $10; Brown Legborns, 11; Black Minorcas, Rhode Island Reds and Barred Rocks, $12. Also Flemish Giant Babbits. Write for prices. Campbell Poultry Ranch, Camphell, Cal.

WE ARE BOOKING ORDERS for Fall and Spring hatching now. White and Brown Leghorns; Barred and White Rocks; Black Minorcas; Rhode Island Reds; Buff Orpingtons and Anconas. No deposit required with order until 30 days previous to delivery of chicks. Large orders a specialty. Santa Clara Valley Hatchery, B. 6, San Jose, Cal.

FOR SALE—25 dozen one-year-old White Leghorn hens, $6 per dozen; 12 dozen pullets $9 per dozen. All hoarders have been culled out. Send crates. Mrs. E. J. Lawrence, Box 303, Corning, Cal.

WHITE PLUMAGE POULTRY FARM and Hatchery. Sells Fall and Winter chicks. White Leghorns, Barred Rocks and Rhode Island Beds. Circular free. H. A. Schlotthauer, Exeter, Cal.

EMPIRE HATCHERY has first-class White Leghorn pullets, one to five months old at from $3 to $7 per dozen. Beegle & Cullen, Empire, Cal.

BARRED PLYMOUTH ROCKS—"The kind that Win and Lay." Choice stock for sale. Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

CROLEY'S EVERLAY EGG MASH AND CROLEY'S SCRATCH FEED form a perfect balanced ration. Ask your dealer for them.

TRAPNESTED LEGHORNS—White and Buff Stock Eggs, chickens. Arthur R. Schroeder, Box 179E, Mountain View, Cal.

ORPINGTONS, BUFF AND WHITE, Black Minorcas and Carneux pigeons. Mrs. Susan Swaysgood, Pomona Cal.

HARES AND RABBITS.

BOSWORTH'S Imperial Bed New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville, Cal.

BELGIAN HARES—Young stock for sale. Hurd Bros. St. Helena, Cal.

TURKEYS, DUCKS AND GEESE

HART'S BRONZE TURKEYS—Limited number of last season's breeders for sale at reduced prices. Olhert M. Hart, Clements, Cal. (Successor to Ed Hart.)

CHICKENS, DUCKS, GEESE, GUINEAS, PEA FOWL. Address Wm. A. French, 545 W. Park St., Stockton, Cal.

PIGEONS.

WHILE THEY LAST for $3 per dozen. Plymouth Rock Homer Pigeons. Very fine. Geo. M. Bosworth, Geyserville, Cal.

Classified Advertisements.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

WANTED.

WANTED—About seventy-five young men and women to enter the WESTERN NORMAL on August 30th, to prepare for teaching. Western Normal graduates secure and hold good positions. We assist graduates to secure good positions and promotion. We save you time and money. For information address, WESTERN NORMAL, J. R. HUMPHREYS, Principal, Stockton, Cal., Box 704.

RANCH MANAGER—With many years' experience in the management of general and diversified farming on a large scale, desires similar position with some progressive landowner or corporation. Is up-to-date in dairying, manufacturing dairy products, stock raising and deciduous fruit-growing. Box 230, Pacific Rural Press.

WANTED STEADY POSITION on large farm by young man, graduate from best Agricultural College in Europe. 3½ years California experience. Handy with horses and farm machinery, including gas engines. General farming and orchardist. Best of references. Address E. Seemann, Belmont, San Mateo Co., Cal.

WANTED—Married man holding position as superintendent of large tract of farming land seeks new position as manager or superintendent of extensive ranch or agricultural enterprise. Qualified by training and experience to supervise, dvlop, or rorganize responsible undertakings. Box 185, Rural Press.

WANTED: POSITION BY SUPERINTENDENT—Large experience orchards, vines, alfalfa. Understauds handling of all fruits, green and dried. Also development and subdivision work. Best of references. Address, Wm. Tardif, 120 Sarah St., Fresno, Cal.

WANTED TO LEASE with option of purchase, 160 to 320 acres good Sacramento Valley or foothill land. Good buildings, some good alfalfa, remainder grain, pasture. Full particulars first letter. Box 160, Rural Press.

SITUATION WANTED—Young married Swiss dairyman wants position as milker. John Hefty, Afton, Glenn Co., Cal.

WANTED—Dried fruits, nuts, honey, beeswax, beans, etc. J. E. Lawrence, 326 Clay St., San Francisco.

MISCELLANEOUS.

FOR SALE—Three-year-old "Best" tractor (gas), 80 h. p., newly overhauled and in good condition, with set of engine disc plougha and set for disc change. Will exchange for good property, cows, horses, or mules. Address, Patterson Ranch Co., Patterson, Cal.

USE BROOMS MADE BY THE BLIND—All qualities guaranteed. Prices from 25c to 60c. Send for our price list. Help our blind workers to be self-supporting. San Francisco Association for the Blind, 1526 California St., San Francisco, Cal.

SECOND HAND WATER PIPE and screw casing. New threads and couplings dipped in hot asphaltum. All guaranteed. Send us your inquiry. SHECTER PIPE WORKS, 306-8 Howard St., San Francisco.

"SMITHS' PAYS THE FREIGHT."—To reduce the high cost of living send for our Wholesale to Consumer Catalog. SMITHS' CASH STORE, 106 Clay St., San Francisco.

LIVING EXPENSES REDUCED THROUGH CO-OPERATIVE BUYING—Write for catalogue and particulars. Pacific Co-operative League, D236 Commercial St., S. F.

COMMERCE AUTO TRUCKS—Brand new. Regular price, $1075 f. o. b. San Francisco, $950 if you buy it now. Box 54, Pacific Rural Press.

TRACTOR PLOWING by time or contract. Special plow for hard ground. J. W. Seitz, Mountain View, Cal.

MILKING MACHINES—4 unit Hinman milker complete, $100. P. F. Barton, Escalon, Cal.

LAND FOR SALE.

GOOD NEWS FOR YOU.

"SCHOOL LAND WILL SOON be on the market under more favorable conditions than formerly.

"YOU have over 500,000 acres to select from NOW. Will you get your share?

"State MAP showing SCHOOL land in California, plainly marked, $2.50.

"YOUR rights are worth over $1,000, if used SOON. Order may TODAY. Personal checks accepted.

"Booklet, circulars, FREE. Joseph Clark, Sacramento."

FOR SALE—23½ acres, five miles from Santa Cruz, mile from school and postoffice. Fourteen acres fruit, mostly apples, balance corn and grain. Six-roomed house, all modern conveniences. Outbuildings, chicken house accommodation 500 chickens. Two pumps, motor, horse, buggy, all farming tools. Mrs. J. J. Kenny, Soquel, Cal.

EXCHANGE—235 acres wheat land, located near Sonoma Depot; ten minutes' walk from Boyes Hot Springs. Also two-flat building of 5 and 10 rooms, located on Sutter street, San Francisco. Will exchange either or both for growing stand of alfalfa. L. Straus, 110 Sutter St., S. F.

MUST SACRIFICE—80 acres good land one mile from station and State highway. Part leveled and checked. Electric pumping plant, hog fences, small modern house with plumbing. $3400 cash, $300 May, 1918, 7% interest. Chas. Paxton, Athlone, Merced Co., Cal.

CALIFORNIA LAND—Money-making little farms, high class, low priced properties in all counties. Call or write the oldest land office in California; we will save you 25 to 50 per cent. C. M. WOOSTER CO., 303 Phelan Building, S. F. Catalogue free.

FARMS WANTED—We have direct buyers. Don't pay commissions. Write describing property, naming lowest price. We help buyers locate desirable property Free. American Investment Association, 93 Palace Bldg., Minneapolis, Minn.

100 A. BOTTOM LAND in Rogue River Valley, Oregon, ½ mile from railroad station Tolo. 30 A. pears 3 and 4 years old, 50 A. alfalfa. Good house, barn, stock, improvements. F. B. Noyes, 3023 Summit St., Oakland, Cal.

WANTED to rent fully equipped orchard, alfalfa, hog or dairy ranch on share proposition, by responsible and thoroughly experienced man. Can furnish best of references. Box 210, Pacific Rural Press.

FOR SALE—Beautiful country house near Capitola. Two and a half acres chiefly in cherries. Seven-roomed house and outbuildings. Address Owner, P. J. Archibald, Soquel, Cal.

FOR SALE—Small dairy ranch; alfalfa, running water, cows, hogs. Reasonable terms. Sacramento Valley. Slater, owner, Hobart Building, San Francisco.

WANTED GOOD FARM, or unimproved land from owner. H. L. Dowling, 145 Palace Bldg., Minneapolis, Minn.

STOCK RANCHES for sale in Eastern Oregon. Principal only need apply. 2509 Prince St., Berkeley, Cal.

TREES AND NURSERY STOCK.

BURBANK'S SPINELESS CACTUS—Hardiest varieties Melrose and Special. Strong mature slabs, $8.50 per 100; $59 per 1000. Labranza Banch, Athlone, Merced Co. Cal.

RECLEANED ALFALFA SEED, free from Dodder and Johnson Grass; high germination; excellent color; 20c per pound F. O. b. your railroad station. Send for sample. E. F. Sanguinetti, Yuma, Arizona

BUDS OF NEW, RARE AND COMMERCIAL Fruit and Nut trees for sale. Tribble Nurseries, Elk Grove, Cal.

new, so she was well pleased with her investment of $1 if she only got the one item out of it. And by the way, a great many are writing me that they are saving many dollars by having that book. This is not meant as boasting, but just to tell you the truth of what people are telling me, and of course I am glad of it because that was the leading idea in mind when I undertook to write it. All we can do is to be as helpful as we can in this world, then we never need be afraid to step into another when the times comes; our credentials will go with us, and it's a jolly good thing we are not allowed any baggage, only just our credentials or passport, for if extras were alowed there would spring up monopolies and trusts. An old proverb says: "The world goes round as if on wheels, and death is a thing that every one feels; If life was a thing that money would buy, the rich would live and the poor would die."

This is California year sure enough, for almost everybody and his uncle are visting the Fairs, and throwing bouquets at Los Angeles to make up for her loss of not having a Fair. And that's right too, for Los Angeles is a nice town and an awful busy one too. And while there is not any particular place quite up to Petaluma for numbers in chickens, there are some good-sized poultry plants at some of them, and most all run on sanitary principles that insure a good healthy flock. I don't think the White Leghorn is so much in evidence in the southern part of the State as in Petaluma, for most all keep more than one breed, a fact that proves more for the other breeds than any other thing they could do. It is in fact good business to have more than one variety if one has room and can give each the special care needed for success.

Grapes and Chickens.—Do grapes hurt chickens—that is, do they stop the hens from laying? If hens are turned on green grapes and they eat any quantity they will certainly stop egg production. Green grapes are about as sour a fruit as we can imagine, and any amount of acid no matter what fruit it comes from will hurt egg production. If the hens are well fed and have other green feed, they will not eat enough of the green sour grapes to hurt them, but if you are not feeding other green feed it would be advisable to shut the hens out from the vineyard.

GREEN LADYBIRDS—TURKEY FOOD.

[Written for Pacific Rural Press.]

Turkeys to eat the green lady bugs (diabrotica soror) are used by Thornton Glide of Yolo county to protect low-growing crops from green ladybirds and are suggested for use in corn fields where these diabroticas injure the corn grain yield by eating the silks. They are so bad in the fork of the American and Sacramento rivers that corn growing has been practically given up, though it is otherwise one of our best adapted sections. A lot of turkeys would enable corn to be raised to feed to hogs which the new settlers are introducing into that reclamation district, and would provide a neat source of income next holidays.

Why a Balanced Ration is Necessary.

[Written by Geo. H. Croley.]

To make hens profitable as egg producers, they must be fed with not only a sufficient quantity to produce a maximum number of eggs, but a proper assortment must be furnished as well; in other words, the hens must be provided with a ration balanced for egg production. What is such a balanced ration?

In order to determine more fully the effect of certain rations and to demonstrate just what kind must be used to provide a balanced egg ration, a number of pens of hens are being fed on various foods at the experimental farm of the Missouri State Poultry Department. Each pen contains twenty hens.

C. T. Patterson, the pathologist in charge of the experiment, says: "The test with a wide ration, containing elements (starch, fibre, fat, sugar, etc.) which would produce three yolks for each white (which is formed from protein—lean meat, gluten, bran, etc.) laid 379 eggs the first six months."

"The test with a narrow ration, containing elements which would produce two whites to each yolk, produced 269 eggs.

"The test with a ration containing equal yolk and white material, but without the minerals to produce the shell, produced 161 eggs.

"The test where the ration contained elements necessary to produce equally all parts of the egg (the above ration with the addition of ground shell) produced 1603 eggs in the same time. This ration is called a balanced ration for egg production."

A careful reading of the above will explain why some poultry keepers fail to make even the very best laying strains of hens profitable, and often for the occasional condemnation of the Hogan method of selecting the hens that have the capacity to lay large numbers of eggs. It also makes clear why descendants of heavy-laying, trap-nested hens in some poultrymen's hands fail to maintain the reputation of their strains.

Mr. Patterson goes on to say: "In order to explain more clearly what is meant by a balanced egg ration the accompanying illustration is given."

"The yolk is principally carbohydrates; the white, protein; and the shell, minerals. Thus the three parts of the egg are made from three kinds of food."

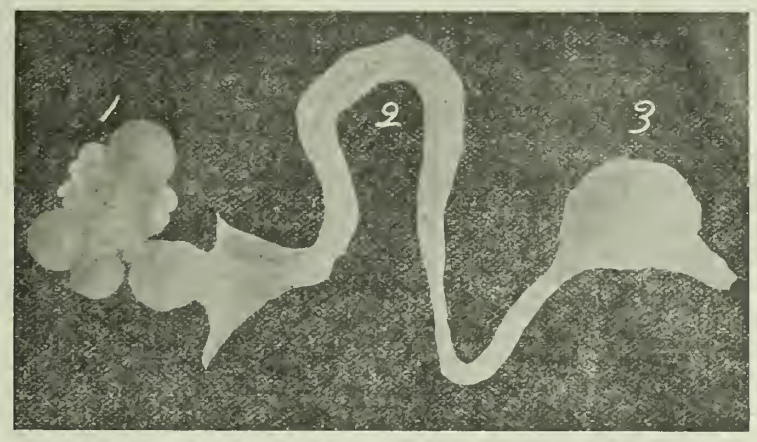
Mr. Patterson then gives some data and formulae based on Missouri conditions and products that are available and low priced there, which we omit; but in commenting on the results of feeding these rations he makes several very instructive statements, as follows: "The basis for computing the number of yolks and whites produced by each kind of feed was that one pound of carbohydrates would produce 3⅛ yolks; one pound of protein would produce 16⅔ whites, this being the rate of the average hen here at this station."

In these estimates only that portion of these materials that are digestible are considered.

This is a fair standard with which to compute a balanced egg ration anywhere; however, strange as it may seem to those who are inexperienced, in the warmer parts of California, where there is a very marked drop in temperature at night, a moderate increase in carbohydrates or heating food should be added, while along the Coast where it is cool but with little variation in temperature during the 24 hours a proportionally less amount of carbohydrates should be used. This increase of heating food in the warmer sections is of peculiar importance in feeding Leghorns and other small egg type fowls.

As it is stated that to produce a yolk, five times as much material is required as is needed to produce a white it may be well to explain that the greater part of the carbohydrates are used to produce heat and energy and only a small part goes to form the yolk, while a small part of the protein is used to repair waste tissue, etc., of the body, leaving nearly all of the material available for egg building.

As a further illustration, Mr. Patterson adds: "It will be seen that from 150 pounds of corn, 382 yolks and 198 whites are produced; therefore, it is not a balanced ration. The extra yolks (or the material that should go to make yolks) are built into fat. In this way, hens fed on corn alone get extra fat, and we hear the old expression that the "hen is too fat to lay." The expression should be changed to read, "the hen can't lay is the reason she gets too fat."



Egg Organs of a Hen, Straightened Out to Show the Sections Where Different Parts of the Egg Are Made: (1) Ovary, Where the Yolk Is Produced. (2) Part of Oviduct Where the White is Made. (3) Part of Oviduct, Where the Shell Is Made.

"Do cigarettes annoy you, Miss Kean?"

"Not at all. It's the fellows who smoke them that I can't stand for."
—Toledo Blade.

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The book contains 157 pages, besides illustrations. The 45 chapters cover every phase of poultry culture from eggs to hens, and from hens to market. Feeding, housing and parasites.

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Pacific Rural Press, Publishers

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The Home Circle.

A FELLOW-FEELING.

I never liked young Tommy Brown,
For Tommy Brown, you see,
Is just the kind my people think
As good as good can be.

They say to me, "Now, Tommy Brown
Would never muss his hair,
Nor stamp his feet when things go wrong,
Nor strew things everywhere."

How tired I grew of Tommy Brown,
He seemed so very good!
The things he should not—never did,
But did the things he should.

Then once I went to Tommy's house
And heard his mother say:
"Now, Tommy, stop! Why, Teddy White
Would never act that way!

"You'd never see him leave his shoes
Around the floor like that,
Nor cry when asked to pick them up,
Nor tease the poor old cat."

So when I now meet Tommy Brown
I try to be polite;
I like him better than I did,
For I am Teddy White.

Harper's Monthly.

THE KISS THAT SUE REFUSED TO GIVE.

Mother tied the broad hat ribbons under the round chin and kissed the rosy little face beneath the flowered bonnet. "Be mother's sweet baby," she said.

She smiled back into the loving eyes and promised that she would be "good as gold" all day long. Then she trotted down the street, and mother's eyes followed the plump little figure till it turned a corner and was lost to view.

Another figure hurried around the corner as she did—Betty Gordon, who lived next door. But Betty did not stop. She only said, "Morning, kiddie," and passed Sue, walking very quickly.

Betty was a big girl of fourteen years, in the eighth grade, and Sue was a little girl of not quite seven years in the first grade; so Betty did not often stop to talk or walk with her, and when she did Sue always thought that it was a great favor. She thought Betty was sweet and pretty. This morning her big eyes noticed, even in the hasty glance she caught as Betty passed her, that her neighbor looked pale and worried. Sue knew why, for the day before Betty's mother had come to see Sue's mother, and Sue had heard her say that the mid-year examinations were being held and that Betty was studying hard for the mathematics examination, which was to come to-day, for she was afraid that she would not pass. It meant that Betty could not go on with her class. She looked at the girl hurrying on in front and hoped with all her little heart that Betty would pass.

It happened that the teacher who had charge of the first grade was a particular friend of the teacher who presided over the floor which the seventh and eighth grades occupied. Sometimes the two teachers sent little notes to each other by their pupils. This morning, while Sue was happily sponging her slate and getting her desk in perfect order—a task she always enjoyed—Miss Saunders called her to her desk and gave her a little folded note to take to Miss Brooks, on the third floor. Sue, very proud of being chosen for the mission, climbed the long steps as swiftly as her short legs would let her. She had never been on the third floor before. Outside the door she remembered that examinations were going on inside, and she paused and entered on tiptoe. She had to come in at the back of the room, and she made so little noise that no one heard her for a moment. Miss Brooks had left her desk and was at the other side of the room, and Sue stood for a second, looking for her. Then suddenly she saw something that she did not in the least mean to see. Betty was at the desk on the aisle, just in front of Sue. Her head was bent low as she worked, and as Sue looked she turned quickly, so that her neighbor across the way could not see her, and drew hastily from her blousy waist a thin little book, which she consulted for a moment, then quickly slipped it back, and while Sue was wondering why she seemed so anxious to have no one see her she looked up and caught Sue's eyes, and a deep flush spread from her forehead to her chin. And then Sue understood. She had not gone to school very long, but she knew that when you are taking examinations you must not look at the book or let any one help you; if you do, you are cheating. Miss Saunders had given them a little written spelling lesson one day, and one little girl had drawn her book from her desk and looked at a word. Miss Saunders had put her arm around the little girl and explained to them all why they must not do that and how cheating is just as bad as stealing. And there was Betty, who had been afraid that she would not pass, cheating! While Sue stood there with big eyes fixed in horrified surprise on Betty's flushed face, the teacher, moving nearer, caught sight of the little figure. She was almost at Sue's side before Sue saw her, and, startled, Sue could only gulp and hand her the note. Then her eyes went back to Betty.

Miss Brooks read the note. "No answer," she whispered to Sue. Then, noting Sue's looks, she added amusedly, "What did you see to frighten you?"

Over her shoulder Betty sent Sue a fierce, commanding look. "Keep quiet," it said.

She stood trembling, bewildered. Then she choked out, "N-nothing, ma'am," and fled. Once out in the hall, she sat down on the top step and sobbed miserably. She had told a lie. To keep from getting Betty into trouble, she had said she hadn't seen anything, when she had. She longed to get home to her mother, but she felt that this was a trouble she could not even tell her, for fear of "telling on" Betty; so she tried to wipe the tears from her chubby cheeks and went on downstairs, a mournful little figure.

Betty got through with her examinations early and overtook Sue on her woebegone way home an hour later. This time she stopped. "Thanks for not telling on me, kiddie," she said, smiling a bit uncomfortably. "You're a good little sport, and I'll do something for you some day."

She bent over the round little face, to kiss it, but Sue drew back. "I don't kiss cheats," she said, and she walked off very straight and proud.

"Well, you funny little trick!" began Betty, laughing. But as she stood looking after her, somehow the laugh died. A little mite of a six-year-old—and she wouldn't kiss her because she was a cheat! Suddenly Betty burst into tears. Then she turned and walked back to school.

"Sue," said Betty, the next morning, as Sue came out of her gate, "I went back to school yesterday and told the teacher I had cheated. I am to be punished somehow. I don't know how yet, but I don't care. I'm glad I did it. Would you"—she asked humbly—"would you mind if I kissed you now??"

Sue lifted a glowing face. Now she, too, could go to Miss Saunders and beg forgiveness for the lie she had told. But best of all, Betty was sorry. She had told, and she was not really a cheat. So they walked happily to school together.—Helen Dean Chappell, in The Pacific.

Bert: "I don't see see any use in this geography lesson." Mattie: "Why, you goosey, it's of the greatest use. It tells you where to go when you can't get there, and describes the country and all that. If we had no geography, we'd get lost all over the world."—Exchange.

When little Willie L. first heard the braying of a mule in the South, he was greatly frightened; but, after thinking a minute, he smiled at his fear, saying, "Mother, just hear that poor horse wiv the whooping cough!"

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CARE OF ROSES IN AUGUST.

The care of your Rose Garden and its treatment, is easily a matter for first consideration. It is their summer dormant period. Although not generally understood or appreciated by amateur growers, it remains a fact that some of our finest and most perfect roses may be produced during the Autumn months, flowers which will even exceed in beauty and perfection those of the Spring crop.

There is usually a total absence of mildew in Autumn. This factor, in conjunction with the cool nights and warm days will give you magnificent blooms.

The time to begin a course of treatment which will be productive of the highest attainment of perfection both in growth and bloom during Autumn, is now. The treatment is simplicity itself and consists in merely withholding all water during July and August, this treatment applying, however, only to plants which were set during the previous year or years.

Roses which were planted during the past Spring have hardly at this period a sufficient root action established to withstand this treatment, but even with them water once every three weeks is ample. The same treatment holds good for Roses planted at the present time which are delivered as balled plants. In the case of these latter, water once every two weeks will answer.

With the matter of watering in hand we would emphasize, as we have many times before, the necessity of doing it thoroughly when it is done; by watering every two or three weeks, as previously referred to in the case of newly planted stock, we do not mean a sprinkling over the surface of the ground, but a thorough irrigation by bowls 18 inches in diameter by four or five inches deep, or by the trench system of ditches along the rows.

If you anticipate the planting of a Rose garden there is no time of the year better adapted for the purpose. It is out of the question to plant dormant, bare root stock now, but balled Roses or those established in pots or boxes if planted at this season become firmly rooted and grow away with great vigor with the advent of cool Autumn nights and ays. Not only that, but if good plants are used you can depend on a glorious show of blooms during October and November.

Regarding the varieties of Roses to plant, think twice before you act at once. Bear in mind that varieties popular ten or fifteen years ago have been so superseded by more recent kinds, both in vigor, perfection of color, form, etc., as to be hardly worth planting. Aim to plant the best and get the most possible satisfaction from that portion of your garden which is devoted to them. A poor variety requires the same amount of space, water, fertilizer and labor as a good one. Why not plant good ones? The initial cost is a little more but is manifold times offset in the ultimate satisfaction gained. Better one plant of Juliet than a hundred Mad. Lambard or Duchess de Brabrant.—Fred H. Howard, Los Angeles.

SWAT THE FLY

"O every fly that skips our swatters,
Will have five million sons and daughters,
And countless first and second cousins;
Of aunts and uncles, scores and dozens,
And fifty-seven billion nieces;
So knock the blamed thing all to pieces."

—Walt Mason.

Little Janet and I were digging in the back yard, preparatory to planting flower-seeds. She was some distance from me, busy with her tiny spade, when all at once she cried: "O Mother, come and see! I've found the funniest bug! It hasn't got anything 'cept a long, fat tail." It was her first angle-worm.—Little Folks.

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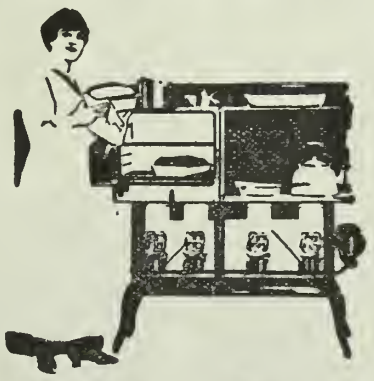


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The Markets.

Unless otherwise quoted f. o. b., San Francisco.

San Francisco, August 18, 1915.

WHEAT.

Both California and Northern clubs are decidedly firmer this week and a slight advance in both is expected any day. The bulk of the receipts of new crop continue to show up rather poorly as regards quality.

Sonora	$1.77½ @ 1.82½
Cal. Club, ctl	1.80 @ 1.82½
Forty-fold	1.80 @ 1.85
Northern Bluestem	1.95 @ 2.00
Northern Club	1.80 @ 1.82½
Northern Red	1.75 @ 1.90

BARLEY.

There is still another advance this week in barley, both shipping and feed being up since last reports. The market for futures is also very strong with prospects of further advances.

Shipping	$1.32½ @ 1.35
Choice Feed, ctl	1.27½ @ 1.32½

OATS.

Like other grains, oats are very firm with a tendency toward higher prices. White oats have been marked up five cents. So far, there has been no change in red feed, though strictly fancy lots might bring a little better than the figure quoted. Most of the feed on the market is of inferior quality and this is selling at less than the quotation.

Red Feed	$1.35 @ 1.45
White	1.50 @ 1.55

CORN.

Eastern corn appears to be a little less firm this week, though as usual the local market is but little affected by minor eastern changes. Little interest has been shown here lately; and transactions are not very large.

California Yellow	$1.80 @ 1.85
Eastern Yellow	1.85 @ 1.90
Milo Maize	1.75 @ 1.80
Manchurian	1.40 @ 1.60
Kaffir	1.80 @ 1.85

BEANS.

Notwithstanding a good deal of talk of large bean crops, the market continues firm, and the only changes made are of the upward sort. It is said that a large aggregate of beans will come in this year from new sections where beans have not heretofore been grown. These are generally in small lots, largely of black-eyes and small whites, put in in anticipation of a war demand. Whether or not these will have a tendency to lower the market will depend on whether or not the expected war demand materializes. Advices from the country indicate good crops in the chief growing districts.

Bayos, per ctl.	$3.75 @ 3.85
Blackeyes	4.00 @ 4.25
Cranberry Beans	3.50 @ 3.75
Horse Beans	1.75 @ 2.00
Small Whites	3.75 @ 3.90
Large Whites	3.50 @ 3.75
Pink	3.00 @ 3.20
Limas	4.15 @ 4.25
Red Kidney	4.90 @ 5.00
Mexican Reds	4.90 @ 5.00

HAY.

The hay market here continues in very good shape, with a somewhat firmer feeling now than a week ago, though quotations show but little change. Less than four thousand tons arrived in San Francisco this week; and the bulk of this was of the better grades. Arrivals of alfalfa hay in this market continue very limited; and an advance in prices for this item would not be surprising. A good deal of movement in alfalfa is reported at interior points. The export movement from San Francisco to Australia continues, one cargo leaving this week and another vessel having been chartered. The harvest continues under favorable conditions as to quality. Large quantities are being stored in the country for winter use and sale; and this is adding to the firmness in the spot market here.

(On track, San Francisco.)

No. 1 Wheat, per ton	$11.50 @ 12.50
do No. 2	8.50 @ 10.00
Barley	8.00 @ 10.00
Tame Oats	9.00 @ 12.50
Wild Oats	7.00 @ 9.00
Alfalfa	8.00 @ 11.00
Stock Hay	5.00 @ 5.50
Straw, per bale	.25 @ .40

SEEDS.

(Wholesale prices, San Francisco)

Alfalfa	Nominal
Brown Mustard, per lb.	Nominal
Canary	10 @ 12½c
Hemp	3 @ 3½c
Millet	2½ @ 3 c
Timothy	7½ @ 8 c

FEEDSTUFFS.

All feedstuffs continue very firm at the present high figures. There have been no actual advances this week; but it is predicted that the next changes will be upward.

(Wholesale prices per ton, carload lots, San Francisco.)

Beet Pulp, per ton	$20.00 @ 21.00
Alfalfa Meal, ton	14.00 @ 15.00
Alfalfa Molasses Meal per ton	18.00 @ 19.00
Bran, per ton	28.00 @ 29.50
Oilcake Meal	38.00 @ 39.00
Cocoanut Cake or Meal	23.00 @ 25.00
Cracked Corn	41.00 @ 42.00
Middlings	35.00 @ 37.00
Rolled Barley	27.00 @ 28.00
Rolled Oats	33.00 @ 34.00

VEGETABLES.

Considerable drops were scored this week in a number of lines. String beans have generally held their own; but peas have dropped about 50c. a sack all along the line. Tomatoes, though of good quality, have been lower most of the week, with an upward move at the last. The general run of cucumbers is down to less than half the prices of a few days ago. Summer squash has also suffered a severe drop. Green corn and okra, are the exceptions to the rule, each being quoted above last week's figures.

(Wholesale prices, San Francisco.)

String Beans	1 @ 2½c
Lima Beans	3 @ 4 c
Peas, sack	.75 @ 1.50
Peppers, bell, bx.	25 @ 30 c
Tomatoes, lug,	50 @ 75 c
Cucumbers, lug	15 @ 35 c
Eggplant, lug	20 @ 35 c
Summer Squash, lug	15 @ 25 c
Green Corn, sack	.75 @ 1.30
Okra, lug	60 @ 75 c

POTATOES AND ONIONS.

The feature of the market is the heavier receipts of sweets, which are now selling at from 2 to 3½ cents. Onions are weaker and are getting but little attention. Garlic is firm at a cent advance with a prospect of going higher.

Delta Burbanks	.75 @ 1.00
Sweet potatoes, lb	2 @ 3½c
Onions, ctl.	.40 @ .60
Garlic, per lb., new	5 @ 7 c

POULTRY.

The poultry market is in good shape, the large arrivals of the week being pretty well cared for without any depression in prices. Eastern stock has been coming in pretty freely, while the arrivals from the country have been fully up to the average.

(Wholesale prices, San Francisco.)

Live Turkeys, lb	15 @ 28 c
Broilers, under 5 lbs.	27 @ 28 c
Fryers	22 @ 24 c
Hens, extra, per lb	16 @ 17 c
Small Hens, per lb	13 @ 15 c
Smooth Young Roosters per lb	23 @ 25 c
Squabs, per doz	$2.00 @ 3.50
Geese, per pair	2.00 @ 2.50
Ducks, young, lb	13 @ 14 c
Old	12 @ 13 c
Belgian Hares	7 @ 8 c

BUTTER.

The consuming demand has been large; but prices have been held down by the very heavy arrivals, especially from Humboldt County and from Oregon. There has been no change in prices throughout the week, except the half cent advance at the end.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	27	27	27	27	27	27½
Prime Firsts	25½	25	25	25	25	26
Firsts	24½	24½	24½	24½	24½	25

EGGS.

Notwithstanding considerable arrivals of eastern eggs, the market has held firm throughout the week with a slight advance during the last few days.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	31½	31½	31½	31½	32	32
Sel. Pul.	27	27½	27½	27½	28	28

CHEESE.

There has been no great amount of life in the cheese market, though prices have held steady in spite of heavy shipments from the north.

(S. F. Dairy Exchange prices on flats and Y.A.'s.)

Y.A.'s, fancy	14 c
Fancy Calif. flats, per lb.	12 c
Monterey Cheese	10 @ 13c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Frt.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	29	29	29	29	30	30
Cheese	12	12	12	12	12	12

DECIDUOUS FRUITS.

The market has continued active this week; but the heavy demand has not been sufficient to offset the ripening crops and the heavy arrivals. Almost without exception, prices are lower than a week ago, and in some cases the recession has been very marked. Grapes are in large supply and lower, muscats being now added to the varieties offered. Raspberries are no longer quoted, while strawberries and blackberries are both off fifty cents. Peaches are in larger supply but of excellent quality and are holding their own in prices. Cantaloupes are in large supply; and, as the quality is uncertain, prices are low and vary with the quality. Apples are moving slowly at lower prices. Some very fancy Bartlett pears have been sold at $1.75.

Huckleberries, lb	7 @ 11 c
Strawberries, chest	1.50 @ 3.00
Blackberries, chest	1.00 @ 2.00
Plums, crate	40 @ 75 c
Prunes	.75 @ 1.00
Figs, bx., double layer	.75 @ 1.00
Nectarines, crate	.50 @ .75
Pears, Bartlett, bx	.60 @ 1.75
Peaches, small box	20 @ 40 c
Crates	65 @ 85 c
Apples, Grav., 4-tier	.75 @ 1.00
4½-tier	.60 @ .65
Alexander, 4-tier	.50 @ .65c
Casabas, crate	1.00
Cantaloupes, crate	.40 @ .85
Watermelons, doz.	1.00 @ 3.50
Grapes, crate, Thompson Seedless	.60 @ .75
Malaga	.50 @ .65
Fontainbleau	.30 @ .50
Tokay, box	.40 @ .60
Muscats, box	.60 @ .75

DRIED FRUITS.

Some lots of new dried apples are offering; and some sales have been effected at 6 cents. Some transactions have also been closed in the country at about the same figure for fancy grades. Apricots are steady, most of the sales being made around 7 cents, though local buyers admit that strictly fancy Mooreparks might bring a little above 8 cents. As yet there are hardly enough new crop figs in to figure on. The outlook is said to be for a short crop of everything except Calimyrnas. No new pears have yet reached San Francisco. There has been no further change in the prune situation; and other lines remain about as heretofore. The New York Journal of Commerce says of the eastern situation:

"The impression prevailing in the New York market is that there will probably be only very limited prune shipments made during September and in some well informed quarters it is said that it is doubtful if any stocks will be shipped during September. Advices are to the effect that unseasonable weather has interfered with the development of the growing crop and that the yield is expected to be about two weeks late this season. Reports received from the coast within the past two or three days, however, state that weather conditions are showing marked improvement and that the principal prune districts are experiencing hot, dry days which are rapidly maturing the fruit.

"In spite of the expected shortage of available crop for late September shipments quotations are made in the spot market here offering stocks at a 4c basis for 40s to 60s inclusive. Trading is only being done on a very light basis.

"There is more interest shown in October orders than in either the earlier September shipments or the November delivery. Offerings were made for first half of October delivery at a 3¾c basis for equal quantities of 40s to 60s, inclusive, in several quarters, and there were some operators apparently willing to shade this figure to a 3⅝ basis for October delivery.

"Conditions in the spot prune market remain very quiet and are normal for this late season of the year. Supplies on the market are very light but are being replenished almost daily by additional shipments from interior points, which are anxious to clean up on their stocks before the arrival of the new 1915 pack. There continues to be a tendency to shade the quotations, which are generally given out, though operators who are ready to do this are believed only to control small stocks. All trading is being done only for exceptionally limited quantities. The European demand for old crop prunes has been lacking again this week though inquiry is said to be received with frequency. The foreign buying during the past month has been very spasmodic and last week was very heavy, followed by extremely light sales this week."

(Prices to Growers.)

1915 crop.

Apples	5 @ 6 c
Apricots, per lb.	5½ @ 8 c
Figs, white	3 @ 3½c
Black	2¼ @ 3 c
Calimyrna	5 @ 5½c
Prunes	3⅛ @ 3⅜c
Peaches	2½ @ 3 c
Pears	5 @ 8 c
Raisins (in sweatbox):	
Loose Muscatels	4 @ 4½c
Seedless Sultanas	5 @ 6½c

(San Jose prices to growers, 1915 crop.)

Apricots, per lb	7½ @ 8¼c
Prunes, subject to dist	3½ @ 3¾c
Peaches	3 c
Pears	5 @ 6½c

CITRUS FRUITS

The valencia orange market in the east continues to be strong and active, while the lemon situation continues to drag, prices are a trifle higher, but the demand, owing to cool weather, is very light. At New York, Monday, Aug. 16th, the auction market averaged from $3.20 to $5.60 for valencias and from $1.85 to $3.05 per box for lemons. The same day Chicago prices averaged $4.50 to $5 for valencias and $2.75 to $3.25 for lemons.

Shipments of oranges are going east at the rate of about 50 cars daily. Lemon shipments are about half that number. It is estimated that California has yet about 2,000 cars of valencias to send out before the end of the season.

Fancy Valencia oranges are reported firmer here and in the south. No great interest in oranges is manifested here owing to the abundance of other fruits. Other lines show no change.

(Wholesale Prices, San Francisco.)

Oranges, Valencias, bx.	$2.75 @ 4.00
Grapefruit, seedless, bx.	2.50 @ 3.00
Fancy	3.00 @ 3.50
Lemons, box	1.50 @ 3.50

NUTS.

With no advices from Europe as to what may be expected in the way of nut importations, the situation is very uncertain. The Exchange has not yet named prices on new crop almonds; and pending this, little or nothing is expected in the way of outside buying. Some offers have been made by packers, but so far as can be learned these offers all have strings to them and are dependent on Exchange prices yet to be made.

(Prices f. o. b. San Francisco.)

Almonds, 1915 crop:	
Nonpareil	15½c
IXL	14½c
Ne Plus Ultra	14 c
Drakes	12½ @ 13 c
Languedocs	11 @ 11½c
Walnuts:	
Jumbo, lb	19 c
No. 1 Softshell	16½c
Budded	18 c
Ungraded	8 @ 10 c
Manchurian	6 @ 11 c

HONEY.

The market is depressed under heavier arrivals, though prices are being held pretty well. Plenty of alfalfa honey is now coming in from Valley points; and some Nevada honey is showing up. There is some inquiry for export; but prices are far below what holders of cheap grades are willing to accept.

Water White, comb	12 @ 13 c

Water White, extracted	5½	@	6½c
Light Amber	3	@	4 c
Dark	3	@	3½c

LIVE STOCK.

The local beef situation is reported strong, with the prospect of an advance in the near future. Prime heavy cattle are reported scarce. Range calves are coming in a little more freely; but dairy calves are in short supply. Mutton offerings are not large; but the market shows no particular strength.

(Prices at San Francisco.)

Steers, No. 1	6¼	@	6½c
No. 2	6	@	6¼c
Cows and Heifers, No. 1	5½	@	5¾c
No. 2	5¼	@	5½c
Bulls and stags	4	@	5 c
Calves: light	8	@	8½c
Medium		@	7½c
Heavy	6	@	7 c
Hogs, Grain-fed:			
200 to 300 lbs.			7 c
100 to 200 lbs.			7½c
Prime Wethers	6¼	@	6½s
Ewes	5	@	5½c
Suckling lambs	7	@	7½c

DRESSED MEATS

Steers	10½	@	11 c
Veals, large	12½	@	13 c
Small	14	@	15 c
Prime Wethers	12	@	13 c
Ewes	11½	@	12 c
Suckling lambs	14½	@	15 c
Hogs	12	@	12½c

WOOL.

The wool market is rather inactive, though it is claimed that there is still a good deal of the California clip to be disposed of. Prices show no change.

Humboldt & Mendocino	18	@	27c
Wool, Sacramento Valley, lb	18	@	22c
Southern, year's staple	15	@	18c
Six months	14	@	16c

HORSES.

The surprising thing about the horse situation continues to be the inability of anyone to discover what effect the war purchases are having. Certainly, the drain of horses to Europe must have left the situation in the country stronger than it would otherwise have been; but there seems to be less interest than ever in the San Francisco market.

(Approximate values at San Francisco, based on auction sales.)

Heavy drafters, 1700 lbs. and up	$275	@	300
Light drafters, 1550 to 1650 lbs.	200	@	225
Chunks, 1350 to 1500 lbs.	165	@	185
Wagon horses, 1050 to 1350 lbs	125	@	150
Green Mountain range horses, 950 to 1200 lbs	50	@	90
Farm workers	60	@	75

MULES.

1200 lbs and up	200	@	225
1100 lbs	175	@	200
1000 lbs	140	@	160
900 lbs	90	@	150

HIDES.

Trading in country hides has been active during the week, all prices being held firm at the old figures.

Heavy Steers, over 56 lbs.	16	@	17½c
Medium	16	@	17½c
Light Steers under 48 lbs	16	@	18 c
H'vy Cows, over 50 lbs.	16	@	18 c
L't Cows, 30 to 50 lbs.	16	@	18 c
Kip	16	@	18 c
Veal			18 c
Calf			18 c
Dry Hides	27	@	28 c
Dry Kip, 10 to 15	26	@	27 c
Dry Veal, 5 to 10			31 c
Dry Calf, 7 down			31 c
Horse Hides—			
Salt: Large			$3.00
Medium			2.50
Small			1.00

HOPS.

No great amount of business is being done, though indications are for a slightly stronger market. Buyers are said to be offering 13 cents at Sacramento with growers holding for a better figure.

1915 crop, lb ..... 13@14c

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SPECIAL DECIDUOUS FRUIT MARKETS.

By J. F. Nagle.

Sacramento, Aug. 17, 1915.

All markets have remained firm during the past week, due to the fact that receipts from Eastern states have been somewhat lighter, the Ozark districts alone contributing a heavy supply. Peach shipments from the Southern states will be finished within a week and though we may feel the effect of Middle West shipments within the next few days and later on receipts from the Northwest, New York State, Michigan, Utah and Colorado, these will be distributed over a period of sixty to ninety days and will be generally scattered throughout the country. Consequently competition will not be as serious as that which we have experienced so far this season and we look for a better tone to the market from now on.

California mountain Bartletts are moving in car lots and the quality is exceptionally fine. The fruit is free from blemishes of any kind and what few boxes have already arrived in the East have sold at very satisfactory prices. The tonnage will amount to not more than a few hundred cars as the crop is not in excess of 75 per cent.

Shipments of Malaga grapes from Fresno are still light, due to the fact that the berries are not taking on very much sugar. It is doubtful whether straight cars of Tokays will be shipped East much before the first of the month. Owing to the cool nights the berries are taking on color, but the sugar content is considerably below that required by law. There is no improvement in the crop situation; as far as Tokays are concerned, we do not estimate the crop to be in excess of 60 per cent.

The canners are showing a little inclination towards buying Salways, but at a figure that is not attractive, ranging from $7.50 to $10.00 a ton. There is practically no interest so far in Clings and it is not unlikely that several cars will be shipped East in the regulation boxes.

The following prices have ruled for the week:

New York—Bartlett Pears averaged $1.80; B. Hardy, $1.40; Malaga Grapes, $1.19; Thompson Seedless, 94c; Elberta Peaches, 72c; Tuscan 75c; Crawford Cling, 80c; Kelsey Plums 87c; Diamond, 95c; Gross, 93c; Duke, $1.10; Wickson, $1.00; Giant, 85c; Nectarine, 95c.

Chicago—Elberta Peaches, 45c; Crawford 52c; Burbank Plums, 90c; Diamond, $1.00; Giant, $1.08; Wickson, $1.06; Grand Duke, $1.00; Gross, 87c; Nectarines $1.09; Thompson Seedless Grapes, 87c; Malaga, $1.04; Bartlett Pears, $1.42.

Boston—Malaga Grapes, $1.00; Thompson Seedless, 92c; Bartlett Pears, $2.10; B. Hardy $1.85; Diamond Plums, $1.28; Giant, $1.15; Duke, $1.37; Sugar, $1.00; Kelsey $1.23; Wickson, $1.03; Gross, $1.42; Crawford Peaches, 55c; Tuscan 70c; Elberta, 67c.

Total shipments to date, 6163 cars; total shipments same date 1914, 7152 cars.

REPORT OF GROWERS' COMMITTEE.

We are informed from many districts that as the growers begin to harvest the prune crop it shows to be lighter than has been estimated and that the total amount harvested will fall considerably short of previous estimates.

Growers generally appear determined to hold the 5c basis which they declared for at the Growers' Mass Meeting which appointed this committee.

Buyers are now out offering materially higher figures than at the time of our last report, and market conditions appear to be more favorable generally to the grower. We call the attention of growers to the apricot situation. Before apricots were ready to pick we were assured they could not possibly bring more than 6c or 6½c, but no sooner were they ready for market than the price rose to 8c with brisk demand. This certainly should have some meaning to the Prune Grower.

J. H. BONE, Chairman.
H. O. H. SHELLEY, Sec'y

Almond Growers!

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CALIFORNIA ALMOND GROWERS' EXCHANGE

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Publisher's Dep't.

Several announcements of dairy cattle sales appear in this issue. California should have more purebred auction sales. Not only would buyers be benefited, but breeders of small numbers of stock could consign to them and find ready market for any surplus.

At the recent nurserymen's convention held at San Francisco, considerable attention was given to ornamentals. We believe every advertiser of commercial trees should embody in his announcements that he has ornamentals, roses, etc., for sale.

Our book department is sending out a steady stream of books that we publish. The leader of course is is California Fruits, next is California Vegetables, then follow California Flowers, California Poultry Practice and One Thousand Questions in California Agriculture Answered. The latest book we have placed in stock, "Productive Feeding of Farm Animals," by Prof. F. W. Woll, is selling well. Our new "California Hog Book" is progressing nicely and we expect to have it ready for distribution by the middle of next month. It will be handsomely illustrated, and sell for $1.00.

On December 15th the Killefer Manufacturing Company received an order from the New York office of the Holt Manufacturing Company of Stockton to deliver one of their deep tillage plows, to be used with a Caterpillar tractor, such as are used extensively by the beet and bean raisers of California, to the J. B. Duke Estate of Somerville, N. J. This plow and Caterpillar tractor was delivered to the Duke Estate with an absolute guarantee to do the work satisfactorily to them.

As proof that the outfit did give entire satisfaction, a duplicate order was received July 1st for another Caterpillar tractor and plow to be delivered August 1st, and before it would possibly have been received by the Duke people, a third telegram was received ordering three outfits similiar to the first, to be shipped to the J. B. Duke Estate of Great Falls, S. C. This telegram was dated New York, August 4th and proves without a doubt the satisfaction given by the first Caterpillar and plow used the last six months on their Somerville estate. The facts as given above are not only a great endorsement for California Caterpillar tractors and plows, but also for California deep tillage methods that are being proven year by year in our State by actual cash results as taken from the books of our business-like, progressive ranchers.

Mr. C. E. Bateholts, Chief Photographer of the General Electric Company, Schenectady, New York, has just returned to the East after spending three weeks in California taking extensive motion pictures showing how the California farmers are using electricity to do their work. By means of a very unique story woven into the film a farmer of the old school is shown how electricity is made and what it can do for the farmer. He is shown each step in the making of the "white coal" from the melting snow down through the power houses and transmission lines to the lights in his parlor. He is taken out on the farm electrical where the pump, thresher, wood saw, ensilage cutter, milking machine, cream separator, churn, washing machine and many other devices are operated by electric motors. He sees great possibilities in the use of electricity in all of its forms and determines to hereafter let electricity do his work. These films will be shown throughout the United States and two copies will be printed in Spanish and Portuguese to be shown in South America.

RAISE SEED FIELD CORN.

[Written for Pacific Rural Press.]

Field corn production for grain and silage is increasing in California by leaps and bounds. All the experience in the older corn states shows the necessity of selecting seed corn before harvest, or the yield will "run out." The best section of the field, large enough to produce all you want for yourself and for sale, at a point considerably removed from fields of other varieties, may be selected.

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These points are explained in detail in our wagon folders and are pictured so plainly that it's almost like looking at the wagon itself. Some dealer near you handles these wagons and has samples set up for you to see. Drop us a line and we'll send you the booklets and folders. We'll also tell you where you can see a **Columbus** or **Weber** wagon so you won't have to waste any time looking for it. Write to us today.

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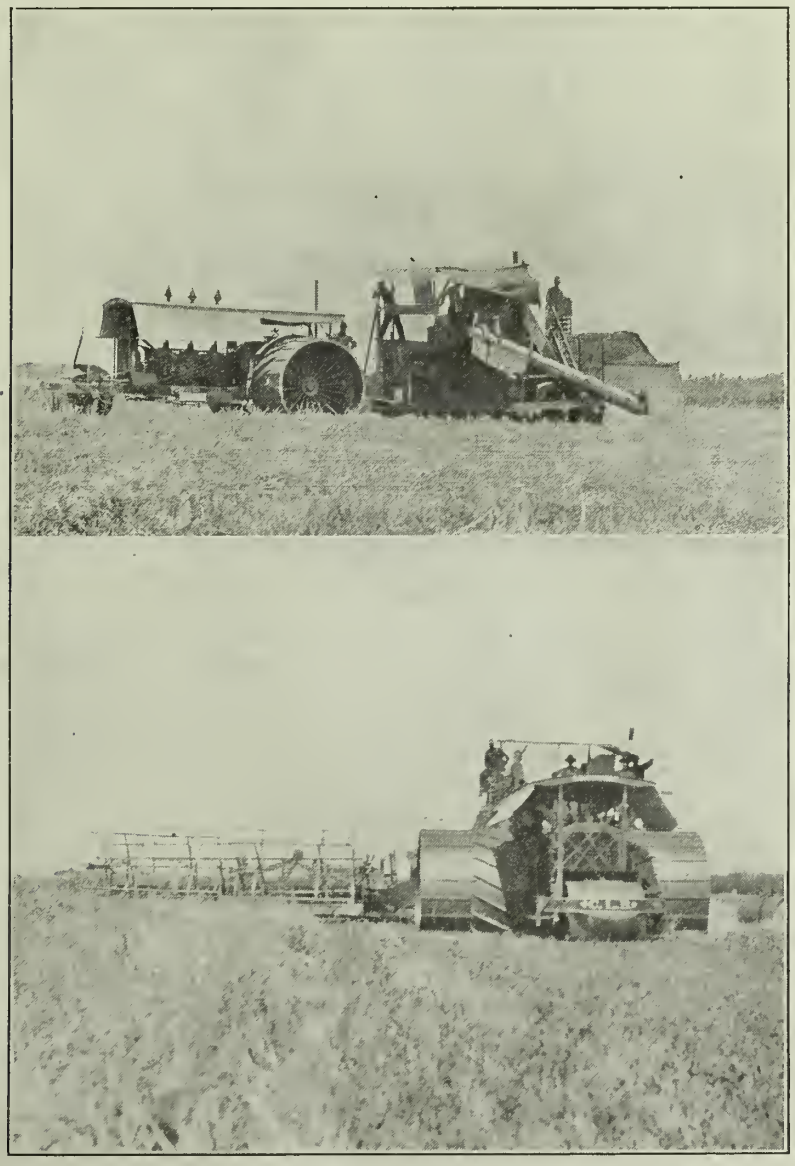
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California Barley: Six to Two.

This may look like a base-ball score, but it is the result of half a century's experience in California that six-rowed barley is better than two-rowed; and that upsets the world.

[Written for Pacific Rural Press.]

SO FAR as this writer knows, no one has ever demonstrated the origin of the six-rowed barley which has been largely grown in this state since pioneer times. If any one can tell us whence it came to California and when, we would highly appreciate the facts. It has been known as "common barley" in this state for more than forty years to the writer's knowledge. Previous to that time also a more recently introduced variety, called "Chevalier," had become rather widely known, for in 1875 there were three market grades of barley, viz.' "feed," "bay brewing" and "Chevalier"—this being a two-rowed barley: the only two-rowed kind which ever attained very wide fame in this state, though others were more recently introduced and grown to some extent. At that time there was also distinction made between "coast" and "bay" barleys—the latter always selling higher because plumper and brighter. The term "bay barley" applied chiefly to the product of Alameda, Santa Clara and San Mateo counties—all of them bordering on the bay of San Francisco. The term "bay-brewing" then signified the best of the crop grown in the bay region. It was, therefore, simply the best of the six-rowed common barley — the name being geographical, not varietal. In this bay district also was grown practically all there was of the Chevalier at that time, but it was never called "bay brewing" because it had its own varietal name and it was worth keeping because in 1875 "Chevalier" was quoted 30c per ctl. higher than "bay brewing." This wide margin of value soon narrowed to an average difference of 5c per cental and from that time to the present, as will be shown later, the importance and price of two-rowed Chevalier as related to six-rowed "bay brewing" has declined. Later still when barley for export became more profitable and it was found that the interior valley product could meet the demand, the term "bay brewing" has now become little more than a memory, and the best of the six-rowed common barley grown in many places became the real contestant with two-rowed Chevalier, also grown beyond the limits of the bay district. More recently still, the word "brewing" has well nigh disappeared and barley is now classed as "shipping" and "feed"—the latter often being taken out of the former by grading machinery.



UP-TO-DATE BARLEY HARVESTING IN CALIFORNIA.

Front and side views of Combined Harvester operated by traction engine. These harvesters of immense capacity have greatly reduced the cost of putting barley in the sack and are well adapted to the broad plains of the great valleys where barley is now chiefly grown.

At different times, during the last two decades of the last century, the brewers engaged several European experts to examine their materials and processes. These experts, having grown up with the idea that two-rowed barleys could alone reach the characters desirable for malting, naturally reported that California could not expect to make good beer with six-rowed barley. The brewers therefore undertook something of a propaganda to push the California growers to a two-rowed product. This accomplished nothing because the California farmer strongly preferred a grain which had six rows of kernels to the head than one which grew only two rows, and he kept on growing the former. We strongly suspect that the superior growing conditions in California enable the plant to fill six rows with plump kernels quite as easily as the European conditions fill the two rows.

About ten years ago or more Dr. Robert Wahl of Chicago, a leading American brewing expert, began a systematic investigation of American brewing barleys and pursued it faithfully. He secured samples from different parts of the country including one from California marked "Bay Brewing" which he seemed to at first accept as the name of a variety, whereas it was only a trade name, with a geographical basis, as claimed above. Its quality and behavior gave it high standing in his researches and led him forward a step toward the conclusion that European two-rowed standards were neither necessary nor warranted in the United States — at least not in the region west of the Rocky Mountains, where practically all the brewing barley in this country is grown. His next conviction was that America should develop its own types of barley, and in work looking to this end, he co-operated with Mr. Carlton of the Cereal Division of the United States Department of Agriculture. And now Dr. Wahl is well established in the belief that a six-rowed barley may not only be best

(Continued on page 199.)

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California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at 5 p. m., August 24, 1915.

STATIONS	Rainfall Data Past Week	Seasonal To Date	Normal To Date	Temperature Data Max'm	Min'm
Eureka	0	.26	.15	66	52
Red Bluff	0	0	0	104	60
Sacramento	0	0	0	100	56
San Francisco	0	.01	.01	72	50
San Jose	0	0	.03	90	52
Fresno	0	0	0	104	58
Independence	0	.04	0	96	54
San Luis Obispo	0	.01	.03	80	52
Los Angeles	0	0	0	86	58
San Diego	0	0	0	74	62

THE WEEK

August has been living up to its record as the month of least rain or of no rain at all at most California places—and yet in the bay district it has walked very close to the danger line, and visitors from a distance have had to learn that delicate distinction between a heavy fog and a "trace" of rain. Although parts of the interior have justified their characters as hot and dry, the coast has been normally cool and moist, and causes one almost to feel the early rains of September coming. But August threats do not by any means assure September doings and the latest wisdom of the meteorologists is no better than that of their ancestors in the "farmers' almanacs"—"about these days look out for rain." It is therefore surely the time when the farmers, and others who have valuable things exposed, should hurry them to cover. Much good produce is lost or injured every year by the unexpected arrival of the early rains, and it does not recoup the loss to have a month or two of perfectly delightful dry and warm weather afterwards. It should, however, favor the enforcement of "safety first" for that which is in shape to be injured—other things can be easily caught up during the multitude of good working days which autumn always brings.

Wishing good-bye to the thousands who are in California only for the sights of it, it is interesting to note that, aside from the fair-seekers, California is gaining population quite rapidly. California's population on July 25, 1915, according to C. E. Cooper, statistician for the State Controller, was 3,198,300, an increase of 920,751 over 1910, when the federal census gave the State a population of 2,377,549. It is generally believed that before the next federal census is taken California will have reached the 4,000,000 mark. Our personal notion is that it will be much greater than that—but some of us will see how that may be.

Fore-Headed is Fore-Handed.

Although there is much of the ingathering of 1915 still to do, it is high time to give what thought one can to the in-putting for 1916. California agriculture well done is a thrifty evergreen; one timely job to do claims attention before the job that is doing wholly relinquishes it—just as the new leaf of the evergreen does much of its growing while the old leaf is dying. The sap is always flowing, and by so much as the old tissue excludes it by its hardening, the new tissue welcomes it by its open osmotic opportunity. The California plant-grower should plan his work in the same way; he should have his next job started before the current job is finished—if he desires to get all the advantage in production which our always-active climate is ready to contribute to his success. "But," some lazy reader will exclaim, "you are a cruel slave-driver; you would make us work all the time. Are you not afraid of being mobbed by the reformers who demand an eight-hour farming day and then a six-hour day? Besides, how inconsistent you are: for, not long ago, you told us all to go to the Exposition when the harvest is over. Now you are fixing up a schedule which will keep us always grubbing."

That is exactly where many people fall out of their berths. Well-planned work does not mean always at work. It is the man who gets ahead with his work who is never driven by it. It is the man who will not think ahead who is always behind with his legs and arms. If you have everything all-set when Nature comes along with her motor-truck, can't you see that she will take up your burden at the start and not keep you chasing down the dusty road, trying to catch up and throw it over her tail-board? California is fine, of course, for the man who wishes to work all the time and makes beneficent provision, too, for a man who has a clear head and a strong leg, because he can get twice as much value from a year if he knows how. California is splendid also for the man who wishes to enjoy reasonable leisure, because growing conditions are always active for something and he does not have to wait for a few days of this or that, during which a crop can be well put in or safely taken off. But the man who has the fullest success, and most leisure also, is the one who is fore-handed with his work and gets full advantage of natural things as they come along.

September Morn.

Is the autumn the death of the year? Not at all: in California, it is the birth of it. How few people fully realize this fact! They err at the very beginning, very often. Take that matter of "going into farming" which so many city people cherish as a lofty business. The wage-earner, for instance; he plans to keep at his job through the winter and have so much more money to start with in the spring! Or the city merchant: he plans to sell out after the holiday trade and buy a farm in the spring! It may be all right from the point of view of stopping in the city, but it is all wrong for starting in the country. September is the California spring time, because it is the beginning of the longest growing season of the year, and because most herbaceous plants enjoy starting at that time, and filling the whole stretch of months from December to June with garden flowers and vegetables and most kinds of field crops also. As just suggested, they may not insist on that time of starting, because so many plants in California are willing to accept much latitude in sowing and planting time, but this thing is sure: if the plant does not start on September morn, the grower should start then with preparations for them. Practically everything does best with an autumn start, except, perhaps, a few evergreen trees, which prefer a start in warmer ground in May and a few tender herbaceous plants which insist upon total freedom from frost by starting at about that time. Besides, September is the best month to buy a farm, not alone because that is the time to get busy with it, but because that is the time when it looks worst and one has a chance to see how deep his farming sentiment is; also because he can then see how dry the soil gets, how much alkali blooms on it, how low the water falls in the well, how dry the "irrigation system" gets, and how much dust he has to reckon with on the highway, etc. The real estate agent, too, is then at the low point in his vocabulary and you have all the talking advantage. You can knock him all around the place with hardly a protest. We have no doubt at all that a man can often save more money by buying in September than he can gain by working another half-year and waiting for the sales' agent to lead him by the nose through the fields of wild flowers and the fruit trees garlanded with blossoms, and the ditches of the "irrigation system" running full of storm water! September morn is the time to study the nude in California farming!

We Wish to Push Seasonable Business.

But we had no idea of buying and selling land when we began this discussion of autumn activities. The real estate agents can get even with us by quoting the above paragraph in their circulars of "autumn offerings." It may help a trade which has not been gilded by Exposition splendor as fully as expected. They may need a lift in their immediate business—later trade will be all right without it, for surely California is getting a great uplift in the general way, and if the farmers of the world do not want to live in California, we shall have to put up with a population of poets, orators, artists and litterateurs—and that may make it all the more profitable for the farmers we now have and whose achievements have made California famous. What we intended to say was calculated to be suggestive to them any way. It was simply an exhortation to begin early and catch the year-long growing season in its full length and breadth. And as we are always happier when we are scolding somebody, we make our point that way.

Perhaps one of the chief reasons why California planters of gardens and fields are so often late in their operations is because our seedsmen, nurserymen and florists do not observe the proper season for the issuance of their attractive announcements. What is the effect of receiving a seed catalogue in October, or later, which advises planting seeds or bulbs in August or September, in frames or the open ground as the case may be, for early product and for the beginning of a long succession? Is not the recipient apt to say: "Oh, well, it is too late for this year!"

Why Don't the Seedsmen Do It?

Why do not the seedsmen take a hint from the fashion-printers? Every farmer knows in June, if he pays proper attention to such impor-

tant matters, whether he must buy tight or baggy trousers in autumn, and every farmer's wife knows whether she must buy ample crinoline or be swathed centrally with a few yards of cloth—as a green-grocer enwraps a bunch of celery. If then the clothing merchants give not only timely hints, but hints in time, how much more important it is for the seedsmen and plantsmen to do likewise. We do not know why they do not; possibly they think they have to wait to know what stock they can get, etc., and in these war years it may be harder than ever to know that. Still it seems to us that at least provisional announcements may be made—such as: "Holland bulbs, if the Kaiser pleases," etc., etc.

We are quite sure the nurseryman's conscience troubles him about late printing of catalogues, because we received a printed postal from a leading propagator the other day, suggesting that orders be sent without waiting for the catalogue. We have a notion that at least nine-tenths of what is usually catalogued can be surely promised and the other tenth provisionally, and then all planters could have catalogues in July or August, and the exhortations to early planting would be truly promotive. We feel a little sensitive about this because we have in the hands of California planters something like thirty thousands of our horticultural books, giving planting calendars and urging best times for doing things, and the trade makes the readers unable to seize the best times because it is two or three months late with its announcements.

Plenty of Bulls, but No Bulbs.

The late printing of catalogues cannot be much helped for this year, perhaps, but reform can be accomplished in the future, and, later on, we shall try to coax the publisher to hang up a page of free advertising as a premium to that seedsman whose catalogue appears first in the proper season of July or August. The present practice is a good deal of a joke, in a way, because Eastern seedsmen issue catalogues in January, perhaps, for next May planting, while California distributors print in November for planting to begin in the previous September! And naturally their newspaper advertising is also just as late and proportionally ineffective. Barring a few wise men, who keep their business in the planters' eyes all the time and profit by it, the great run of advertising for planters begins when the proper season is one-quarter over! Thus two or three months of good business is lost to the seed and plant distributors and the planter is discouraged from doing many things which would rejoice his heart and fill his pocket. We have often thought of this scolding, but never have found ourselves quite cross enough to do it right. Just see how it is in this month's issues, for instance—45 columns of advertising of perfectly good bulls and rams, pumps, automobiles, tractors, silos, implements and machines, etc., which thousands of readers should have, and only one column of plants and seeds, which every one at this season of the year should have in hand, or be ordering now, that he may begin the California growing season aright.

Government Gold on Cotton.

Cotton is believed to be in a bad way, through the action of the allies in placing it on the contraband list, and U. S. Secretary of the Treasury McAdoo has announced that he would, if it became necessary, deposit $30,000,000 or more in gold in the Federal Reserve banks at Atlanta, Dallas and Richmond for the purpose of enabling the reserve banks to rediscount loans on cotton secured by warehouse receipts; or, if the object could be accomplished with greater efficiency thereby, the deposits would be made directly with national banks agreeing to lend the money on cotton at a rate not to exceed 6 per cent. This government gold would be placed in the banks with no charge for interest, and presumably it is not to be loaned, but to stay in the vaults as a safeguard so that the banks can lend their own money more freely and cheaply without fear of being caught short in case of a run.

It is interesting to note the reason for doing this. As stated by Secretary McAdoo, it is for this purpose: "To help the cotton producer of the South in the circumstances; as it is a matter of economic importance to the entire Nation that those who have produced the cotton crop shall have a fair opportunity to dispose of it gradually and in orderly manner, so that they may not be forced to market their crop at sacrifice prices."

The question naturally arises whether it is of any greater economic importance to the nation to protect the producers of cotton than the producers of grains, meat products, cured fruits, or other imperishable, exportable food supplies, against "sacrifice prices"—but this need not be argued now. One thing is clear and that is, that cotton is available security, because grading, warehousing, etc., have been long provided for, so that cotton paper is recognized as negotiable. Grain is a certain distance along the same road in some parts of the country, but not so far as cotton. The obvious conclusion is that to make all food products a proper foundation for credit there must be close standardization and legally prescribed storage, certification, etc. The first thing to do to get food products recognized as security is to get them ready for such reeognition.

Queries and Replies.

Querists must give name and address.

Little Leaf of the Apple.

To the Editor: I am sending apple twigs which are badly affected by some disease. These samples are taken from thrifty young trees from 5 to 8 years old. The affection was first noticeable last year and the branches that were affected did not recover, but looked the same as these enclosed, which are this year's growth. I have examined the trees a number of times for insects, but have never found anything. The leaves of these branches remain in a dwarfed, misshapen condition all the season. I have made inquiries about this, but have not found anyone who understood it.—Subscriber, Stonyford.

This is an old trouble of the apple in many parts of the State. It was at one time called "sour sap in the top," and was supposed to be caused by frost after sap-flow began in the spring. It is probable this is neither the character nor the cause—in some cases at least. Several years ago Prof. R. E. Smith described it as "Little Leaf of the Apple," and not caused by any organism or pest, but as "produced most commonly, perhaps, by a long, dry season in the fall, causing the trees to become especially dormant, followed by warm, spring-like weather during the winter soon after the first rains. Again, they may be produced by long, continuous rainfall during the winter, followed by a very sudden end of the rainy season and a long period during the spring and early summer of hot, dry weather. These, and other irregular combinations may produce the effects described and other similar ones." It is evident that the trouble cannot be reached by sprays or other superficial treatments because there is something wrong with growing conditions. Your observation that affected twigs or branches do not recover gives new force to the old prescription that such growths be cut back severely in the hope of starting a more normal growth from some point lower down. This should be done in the spring as soon as it is seen that the growth is going that way.

Stacking Beans in the Field.

To the Editor: I am located near the coast, and this locality is subject to fairly heavy fogs. I have read considerable about stacking beans in the Eastern States and letting them go through a sweat of from two to four weeks. No one here that I have talked to has had any experience along these lines, and would appreciate your opinion on this matter. If they could be stacked safely, i. e., without danger of moulding, or spoiling in the rain, a part of the crop that is now lost every year by leaving in the field until the thresher arrived, might be saved.—D. J. M., Arroyo Grande.

That there should be a San Luis Obispo man who is willing to admit that he does not know all there is to know about beans, is evidence of advancing human humility. It is common, of course, in California, to leave the beans after cutting in small piles for curing more slowly, instead of drying to death as they would be apt to do in windrows; but stacking to shed rain and to go through a sweat has not yet come under our observation in this State. We would like to hear from any one who works in that way. Theoretically, it might be more dangerous to stack in this State because the fall heat is higher than elsewhere in the country and might therefore induce more fungus growth. But the only answer worth while will be from trial of the method. In case our correspondent may desire to try stacking, we give a method commended for Eastern Washington by L. W. Fluharty in Farmers' Bulletin No. 561:

"Stacking in the field before threshing is growing in favor since in this way a large acreage may be handled without danger of damage from rain. It is during the time the beans are lying in piles between cutting and threshing that there is danger of damage from rain. If stacked, such damage is not liable to occur, as the stacking can begin within a couple of days after cutting and the beans are left in piles only a short time. Another advantage of stacking is that the vines go into a sweat soon after they are stacked and do not become thoroughly dry for three or four weeks after the sweating process begins. While in the sweat the vines, pods, and seed become toughened and there is less danger of cracking than if threshed directly from the field. The stacks are built on a layer of straw 12 or 14 inches thick in order to keep the pods from coming into contact with the ground. The straw also catches the seeds, which are trampled out during the stacking process. The beans are separated from the straw by running both through the huller. The stacks are kept dry by covering them with heavy canvas. An excellent way to protect the beans until threshed is to cover them with straw. On the top of the stack the covering should be 12 or 15 inches deep. The straw is held in place by a network of wires or binder twine."

What Katydid to Oranges.

[Written for Pacific Rural Press.]

Spraying with arsenite of zinc or arsenate of lead is recommended by the United States Department of Agriculture as a weapon against the katydids, which are doing an increasing amount of damage each year to the orange groves in San Joaquin Valley of California.

Among the most important of these is the fork-tailed katydid. The angular-winged katydid, which closely resembles the fork-tailed species and is associated with it in orange groves, does much less damage than the latter insect. Both can be controlled by the same methods. The young of the fork-tailed katydid are found actively feeding on orange trees at about the time when the blossom-petals begin to fall. The insect sometimes attacks the blossom buds, gnawing a hole through the petals to reach the pistil and ovary. Quantities of the immature fruit destroyed in this way are frequently found on the ground when the infestation is at all serious. Oranges which have been only slightly chewed when small remain and ripen on the tree, but they are quite unfit for shipment and have to be thrown out. At picking time fruit damaged in this way will be found to have clean-cut circular holes in the rind which vary from the size of a 10-cent piece to that of a silver dollar.

The amount of dammage done in this way has been known to run to more than 50 per cent of the mature fruit, excluding the undeveloped oranges which fall to the ground. In 1912 several orchards lost a full fourth of their crop and in the same year an examination of 53 orchards of Washington navel oranges showed only 3 entirely free from injury from this source. In three of the others the injury amounted to less than 1 per cent and in the remainder it ranged from 1 per cent to 39 per cent of the mature crop. In one 6-acre tract of young navel trees a hundred boxes of oranges were discarded because of injury from katydids. Eight hundred boxes of good oranges were picked from the same plant, so that the loss in the mature crop amounted to 11 per cent in addition to the young fruits and blossoms which might have matured had the katydids not been present.

Spraying has been found to be the only practical method of control. The eggs are deposited usually in July and August between the upper and lower edges of the tougher leaves. At times the female eats a hole through the leaf and deposits her eggs at the edge of the hole. The period of incubation is long, averaging from 275 to 290 days, so that the insects do not appear in the intermediate or nymph stage until late in the following spring.

Both the fork-tailed and the angular-winged katydid are robust insects. For this reason, therefore, spraying, to be effective, must be done while the insects are still young. In a new publication of the United States Department of Agriculture, Bulletin No. 256, two applications of arsenite of zinc at the rate of 2 pounds per hundred gallons of water, or else two applications of arsenate of lead at the rate of 4 pounds per hundred gallons, are recommended. The first application should be made at the latest immediately after most of the petals have fallen, and the second application from 10 day to 2 weeks later. If there is an infestation of citrus thrips as well as of katydids, lime sulphur should be added to the spray at the rate of 2 gallous per hundred. A third application of lime-sulphur only, of the same strength, should be made about 2 or 3 weeks after the second spraying for the katydids. It has been estimated that the cost of spraying should not exceed, with careful management, $5 an acre.

Smoothed Ground Burns Prunes.

[Written for Pacific Rural Press.]

"I usually cultivate prunes until the limbs hang down in the way, the last cultivation being with a slab clod crusher which slicks off the surface. But I am a little afraid that this smooth surface gets too hot and helps to sunburn the prunes, turning their skins brown, and likely making them "bloaters" or "frog bellies," as we used to say, and the meat is likely to turn dark," says Dr. R. L. Hogg of the Santa Clara foothill country.

His neighbor has a system which appeals to Dr. Hogg, by which the last time over, the clods are mashed with a harrow made of three 6x6s, held together by 2x4s. Long harrow teeth over the 6x6s pointing diagonally backward break the glazed surface so that it does not reflect the sun heat so much and is soft for the fruit to fall on.

Meanwhile, before the prunes ripen in the second week of August, the drying yard equipment is overhauled. The dry yard is pastured through the year and short grass is left on it during the drying season to keep the dust down and small pieces of dirt from getting into the fruit when the trays are stacked. Having no irrigation, the grass is brown and the ground dry by fruit-drying time.

Poor Fruit Drops First.—Just before the good prunes begin to fall, Dr. Hogg picks up everything that has already fallen in his 35-acre prune orchard so as to leave the ground clean of fruit. If there is enough good fruit in the first picking, it is all dried, after which the poor ones are picked out—such as those which are russeted, cracked, sunburned, etc.

After a week or ten days, the fruit which has subsequently fallen is picked up and dried. The fruit ripens faster during the hot spell and sometimes keeps the pickers excessively busy. The third picking comes a week or ten days after the second, as a rule, and the trees are shaken slightly. Sometimes they are shaken the second time if the fruit does not fall fast enough. At the fourth picking, everything is cleaned as they go.

Most people in this section use the Anderson & Barngrover prune dip which grades the fruit into three sizes before drying, making the fruit dry more evenly and saving time on the small sizes and permitting the more frequent use of trays.

Dr. Hogg has a caldron containing 60 to 70 gallons in which he slushes the fruit up and down three or four times, perhaps half a minute, in lye water which is kept boiling. Three pounds of lye are put into the caldron to start with and more is added whenever the skins are not checking enough. If the fruit is left in the lye too long or if it is too strong, the prunes are likely to ooze after they have dried and stick together in the bin.

Grading Would Save Work.—By not grading into sizes before drying, Dr. Hogg has more work. He leaves the fruit in the sun until the small ones are about dry and the others about two-thirds dry. The trays are then stacked in the dry yard about 20 deep, about as high as two men can conveniently pile them. The stacks are endwise north and south with alternate trays projecting about 6 inches so that they will be open to the usual north summer wind. They dry slowly in the stack so are picked over at leisure. If most of the fruit on the tray is dry enough the wet ones are picked out and dried some more and vice versa, discarding at the same time any that are bad.

Test for Dryers.—The way many people test to see if the fruit is dry enough is to pinch between the thumb and finger. If the pit doesn't slip around within the fruit, it is dry enough. Sometimes it is dry enough even if the pit does slip around. If they are allowed to dry too long, the meat gets hard and much weight is lost, reducing the prunes to a smaller size and a consequently lower price. Sometimes if the sugar is well elaborated in the fruit, it may get sticky in the bin unless dried more than usual.

Paper for Drying.—Sometimes they get a big crop and need more trays—they did three years ago—and Mr. Hogg called at the store for "heavy white paper for drying prunes," four feet wide. This was rolled out flat on the ground and the prunes dumped directly onto it from boxes as they came from the dip. It wet the paper, but did not hurt it unless there was something underneath which would break through. Sometimes prunes have been half dried on trays and then dumped onto the paper, but this makes a sticky mess which has to be pulled apart with the fingers and laid out thin. Such handling at this stage breaks many of the prunes.

In using paper, one must be careful not to let the prunes get too dry, for they cannot be stored by stacking as they can in the trays, according to Dr. Hogg. This recalled the experience of C. B. Driver of Dinuba, who claims as one of the greatest advantages of paper drying trays for raisins, that they can be rolled up more quickly than trays could be stacked in cases of overheating or rain.

In the case of rain on the prunes, the trays are usually set up off the ground, the prunes stirred, picked over, taking out those that are dry enough, and "saving all you can." They are hauled to town in sacks. "A little over a ton per acre dried is a normal crop."

AMERICAN farmers are harvesting the greatest wheat crop ever grown in any one country. It may reach a billion bushels. Department of Agriculture experts have estimated the crop at 966,000,000 bushels, basing their calculation on the condition of the crop August 1. Bumper harvests of other cereals and food crops are indicated.

The department's August report estimates the production of the county's leading crops in bushels as follows:

Winter wheat	685,000,000
Spring wheat	206,000,000
All wheat	891,000,000
Corn	2,673,000,000
Oats	1,141,000,000
Barley	195,000,000
Rye	43,000,000
Buckwheat	17,000,000
White potatoes	406,000,000
Sweet potatoes	57,000,000
Tobacco (lbs.)	1,035,000,000
Flax	16,000,000
Rice	24,000,000
Hay (tons)	70,000,000
Apples	253,000,000
Peaches	54,000,000

1 1-2 Tons Raisins on Worn-Out Vineyard

[Written for Pacific Rural Press.]

A system of pruning and culture of grapes to increase their yield, which is falling off seriously in many San Joaquin valley vineyards, was described last spring as being developed by Frank Henry of Fresno county.

Mr. Henry recently brought a suitcase full of new Muscat shoots with well grown fruit on them into our office, showing where the new shoots had been pinched off, diverting the sap into at least two clusters per shoot, with several additional second crop bunches developed on the laterals which put out after the pinching. The berries on these second crop bunches were only a little smaller than the first crop, and Mr. Henry stated they would sugar up in considerably less time so they could be dried with the first crop.

The growth, which was said to be average for the whole vineyard from which the shoots were taken, was only about 2 feet long beyond the first crop bunches. They were taken from the 60-acre Muscat vineyard

about 35 years old belonging to C. W. Adams of Fresno county. In 1912, this vineyard yielding 90 tons of raisins. In 1913, it yielded 65 tons. In 1914, 45 tons, and the vines grew very little. The present crop is estimated by Mr. Henry at 90 tons, while the Japanese who contracted the crop estimates it much higher, about 60 per cent being bunches large enough for cluster layers.

The vineyard has been pruned to very short arms headed low down. Last March, Mr. Adams spent $110 digging the basins around the trunks in which the fruit would hang protected from winds and sun. He plowed the vineyard 10 to 12 inches deep, cutting the great mass of surface roots, developed because of a water table much closer to the surface than Mr. Adams had suspected. The vines were pruned late, bleeding the tops as the heavy plowing bled the roots, This, according to Mr. Henry, had the effect of making all the blossoms set berries; and certainly, the bunches shown were most compact. The crop, having set, shortly had the advantage of sap from the rootlets which immediately put out from the roots cut by the plow, and there is no suffering of fruit for sap.

Mr. Adams' vineyard looks to a casual observer to be in a backward condition among the luxuriantly growing vineyards roundabout, but the pruning and cultivation have set the energy of the vines into fruit, producing only enough foliage to support the crop and to develop plump buds for the next year's crop.

CO-OPERATIVE CITRUS GROWERS' ASS'N.

[Written for Pacific Rural Press.]

One of the most co-operative and thriving local associations we know of is the Santa Paula Citrus Fruit Association of forty-two lemon growers. They are members of the California Fruit Growers' Exchange for marketing purposes and of the Fruit Growers' Supply Company for the wholesale purchase of their supplies, including shook, fumigation materials, fertilizers, machinery, etc.

Their lemon curing and packing house, 90x429 feet, with a capacity of 70 cars' storage, consists partly of a large, new, recent addition which denotes prosperity. The Association does all of the lemon picking for its members and if asked by the growers will furnish spraying, fumigating, and pruning outfits and men, who make a business of going from orchard to orchard and doing this work in a business-like way for the Association.

When Manager C. L. Sheldon tells a grower his orchard needs attention, the grower is usually glad to have the Association's experienced men do the work.

It was only last winter that the co-operative picking began, but the members are now obliged to allow the Association to do that part of their work. Each picker puts his own number on the field boxes so he is held responsible for injury to the fruit. Each orchard is picked at least once a month for at least ten months in the year.

A new Bean Power Sprayer was obtained by the Association this spring to save duplication of investment for members. This is possible since spraying is not quite so seasonal as deciduous spraying. There are few spray rigs owned by growers themselves. A new fumigating outfit bought last year includes 66 tents, the necessary equipment, and two wagons.

BUTTE'S PEACH PROBLEM.

[Written for Pacific Rural Press by Oscar O. Oates.]

As far as the peach crop goes throughout Butte county this season, it does one good to ride through the orchards and view the heavily-laden trees.

A few growers, not being in a position to handle their own crops, are disposing of their fruit at a great loss—bulking at $10 per ton; but the larger part of the growers have refused to yield to the "hold-up" and are handling their own fruit, selling quantities to individual parties at one and one-half and two cents per pound; but the bulk is being cut, sulphured and dried right at home, trusting that the dried fruit market will be far better this fall than at present prognosticated. Several growers vouch they will ship their own dried peaches East in the fall to friends and have them sold direct to the consumer, giving the consumer the advantage of the situation, and perfectly satisfied if they receive five cents per pound—to break even and eliminate the "middlemen" being preferable to a forced yield at a great loss.

Judging from their general trend of conversation the peach producers are all of about the same opinion, realizing that now is the time for co-operation, and henceforth market their products direct to the consumer.

On the other hand, there is the pessimistic growers who intend after the crop is removed this season to dig up their handsome orchards and plant the orange, olive, grapefruit, lemon, etc.

This may be natural, and seem wise to the loser, but there should not exist a cause for the destruction of a single thrifty fruitful peach orchard in Butte county, for there is always a great demand for a staple fruit such as the peach when it can be marketed so that the masses—those of moderate means—can afford to partake. But when choice dried peaches are retailing through the winter at twelve and one-half and fifteen cents per pound, and the hard-working producer knows that he received from two to five cents for the same grade of fruit, there is a radical wrong which only the producer and consumer can doctor by strict co-operation.

Many of the canneries are not operating this season, and others making but short runs, claiming that they are overstocked with last year's goods. If this is one of the reasons, would it exist if the canned fruit were within reach of the average consumer? The producers should not only see that it is to their best interests to unite, but should likewise own and operate their own canneries.

Stating that they will have enough to do to care for the raisin crop, directors of the California Associated Raisin Company again turned down the request of the peach growers to handle their crops on the same basis as raisins.

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California Fruits and How to Grow Them

EDWARD J. WICKSON.

Seventh Edition, Extended and Revised.

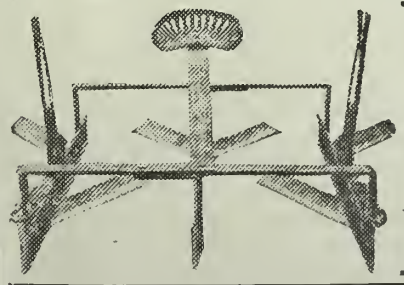
Contains over 500 pages of text with many illustrations. Goes thoroughly into every phase of that immense industry, California Fruit Growing.

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MELILOTUS SEED

Free from Weed Seeds.

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Bosh About Bartletts.

To the Editor: I am sending you a clipping from an Eastern journal, the "Canning Trade," which alarms me somewhat, as I have been planting Bartletts with the conviction that he who fights blight can get crops, and I have gained that assurance from your columns. What have you to say about this Eastern proclamation?—Planter, Paso Robles.

[The following is the paragraph to which our correspondent alludes:

"To Destroy the Bartlett Pear.—There comes from the Pacific Coast a report that the fruit growers of that section are seriously considering the destruction of the Bartlett pear trees in that State, due to their peculiar susceptibility to disease. They are looked upon evidently as breeders of trouble, and as such must be destroyed. This may be a good economic movement, but we cannot see it. The Bartlett pear at its best is certainly the king of tree fruits, and from a canner's point of view particularly so. If, therefore, it be delicate and susceptible to disease, find the remedy or prevention, but don't exterminate it. That is the most retrogressive suggestion we have ever heard mentioned by a serious-minded body of men, and yet the Association of California Fruit Growers is credited with this action. Even the packing of 'sand pears' and their labeling as 'Bartlett' did not rob the public of its taste for the true Bartlett, and it is too good a fruit to treat as did the savages of Africa in Stanley's time, where they used to throw the sick over the stockade walls as food for the wild beasts of the jungle. A State that has produced a Burbank ought to be able to produce a cure for its best species of fruit, and we hope it will, and that the movement to exterminate will not succeed."

[The "report" made to the "Canning Trade" is absolute nonsense. It perhaps arose from the fact that our growers are making great efforts to find a blight-resistant stock on which to graft and bud the Bartlett so that the blight will not get into the roots. Some one may have said "the old pear stock must be abandoned," or something of that sort, and an ignorant reporter twisted it into abandonment of the Bartlett. We shall hang on to the Bartlett as firmly as ever, because there is no other pear which fully serves its purposes, and we are simply striving to get a better foundation for more Bartletts.—Editors.]

UNRIPE BELLFLOWERS CONDEMNED.

Warning has been sent out by the Watsonville Apple Distributors, an organization representing all the fruit interests in the Pajaro valley, by the following resolution adopted by the organization:

"Whereas, It has come to the notice of this board that several carloads of bellflowers have been shipped from this valley; and, whereas, these apples were not inspected by inspectors appointed by the State, and are immature and unfit for human consumption; therefore, be it

"Resolved, That the action of the packers and shippers in putting on the market Bellflower apples at this time too green for use is to be most severely censured as an attempt to deceive the consumer into the purchase of worthless stock; and that dealers and consumers alike be warned against the purchasing of bellflower apples unless the container shall bear a stamp showing that the contents have been inspected under the State law or by the inspectors of the Watsonville Apple Distributors, thus insuring maturity of the fruit and the honesty of the pack."

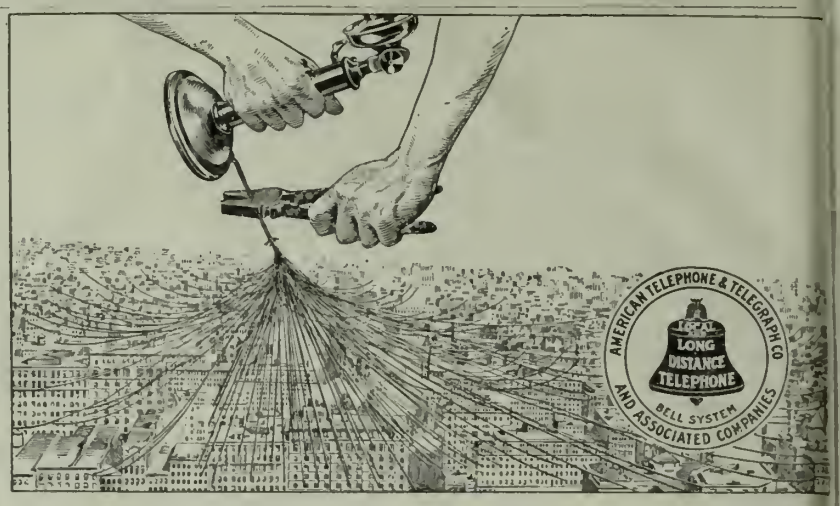
BRIDGE GRAFTING.

To the Editor: I had some grafting this spring and some malicious person cut away the bark of the stock clear around the tree and a foot high. There were 100 fine 4 and 5 year old trees which he tried to ruin, and no one knows his idea in girdling instead of cutting them down? We bridged over the barkless part with long scions and a good percentage are growing. This is the first time this bridge grafting has been done in this vicinity and I believe a good many gopher girdled trees could be saved this way. Will send some photographs when we can get to it if you care for them.—Reader, Sebastopol.

[We would like such pictures when convenient. This sort of grafting is frequently used to save trees girdled by mice under the snow at the east.—Editors.]

THE OLIVE SITUATION.

To the Editor: The writer has read carefully "Aspects of the Olive Industry" in your issue of the 14th inst. It is pertinent and well stated in the main, but a little more may be added and perhaps a slight error corrected. Suffice it to say the industry faces a crisis. It got off on the wrong foot. The product was valued too highly: in the nature of things it drifted into the realm of luxury: packers and growers both contributed to this condition of things. Growers received and packers charged all the traffic would stand. The result was, "a dish for a king," and not a wholesome article for the masses. Unfortunate was



If a Giant Cut the Wires

Suppose all telephones were silent, and that for forty-eight hours you could not even call a telephone exchange anywhere in the Bell System to ask what the trouble was!

Imagine the confusion which would prevail—with personal visits and messengers substituted for direct, instant communication; with sidewalks, street cars and elevators jammed; with every old-fashioned means of communication pressed into service and all of them combined unable to carry the load.

The instant contact of merchant with customer, of physician with patient, of friend with friend, would be severed; the business man and the housewife would lose the minutes and hours the telephone saves them. The economic loss would be incalculable.

There would not be time enough to do the things we are accustomed to do, and social as well as business life would be paralyzed.

Such a condition is almost inconceivable. The Bell System has developed telephone service to the highest degree of usefulness and made it so reliable that its availability is never questioned. It has connected cities, towns and the remotest places from coast to coast, and has taught the people the advantages of nation-wide telephone facilities.

Plans are made, buildings built and businesses run with Bell Service taken for granted, and yet we have to imagine what it would mean to be entirely without telephones before the great value of this ever-present service can really be appreciated.

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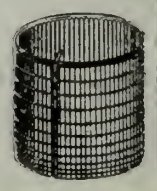
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the classification of the olive, and the oil was pronounced "medicinal," etc., instead of "fruit fat," with the usual sequence. Very few relish medicine and fewer still appreciate the merit and wholesomeness of this condiment and substitute for "animal grease"; hence this part of an ancient industry languishes and humanity suffers loss.

Your correspondent values olive oil at $2.00 per gallon, which is misleading, for we have it upon good authority that California olive oil has recently been offered delivered in eastern markets at $1.45 per gallon, in gallon cans. The seeming necessity for such slaughter of values is the fact that best foreign olive oil has been offered, delivered in the U. S., duty paid, at $1.15 to $1.25 per gallon. This is less than cost for good California oil in the olive. Taking the average price paid for the olives used for oil and the average yield per ton, one of two things will happen: either growers and laborers must compete with poorly paid foreign workers, or a protective tariff, amounting to the difference in cost of the article made at home must be restored to us.

This brings us to the organization of associations, and to the writer's mind it occurs that multiplication of them will but lead to confusion and hazard the solution of the problem. To the grower and packer alike is the situation grave and will take the co-operation of both to meet it, in a way mutually satisfactory. All together in California, with one accord, will work wonders and the experience of the past may be used as a stepping-stone to permanent establishment of felicity for this important industry. Publicity and protective ways and means must not be required of either grower or packer alone, but shoulder to shoulder all interested must plan and prosper, or failing in that invite disaster and disappointment, with growers and packers together; with standardization of grades and package; with a reasonable recognition of the consumers' relation to the industry (a wholesome article at a fair price); with consistent publicity, wider distribution, according to 20th century methods, the business can be placed on a sure foundation and afford remuneration to all branches thereof.

W. W. Hinsey,
Sec. Fair Oaks Fruit Company.
Fair Oaks, Sacramento county.

CALIFORNIA BARLEY: SIX TO TWO.

(Continued from page 193.)

from the growers' point of view, as Californians have always contended, but, from other points of view also, it is the type of barley which should be produced in this country. This conclusion of course brings him into certain conflict with the old two-rowed dogma and he found particular trouble after he had read an essay recently claiming that the official recognition of the six-rowed Manchuria and Oderbrucker by the United States Brewers' Association as standard barleys for Wisconsin was a downfall for the two-rowed types.

Dr. Wahl has recently explained more fully his views on this point, in the American Brewers' Review for July, 1915, and has supported his conclusion by citation of testimony from California dealers in barley and malt that Chevalier is rapidly going out of use in this state. In the Pacific Rural Press of August 14 (page 148) we gave the evidence of H. E. Clemens Horst on that matter. Mr. Horst farther explains why the six-rowed barley of California is preferred for export, in these words which Dr. Wahl quotes in his paper: "The fact is that England grows only or practically only two-rowed barley, but they find that it is advantageous to them to use six-rowed barley along with the two-rowed barley and all of the barley that they import from the Pacific Coast and all the barley that they import from some other countries is six-rowed barley and they prefer to import six-rowed barley than to import two-rowed barley. In other words, two-rowed barley that they grow at home answers their purpose but they need six-rowed barley and this they import."

This is very important as showing that California growers are warranted in growing six-rowed barley not only because it is better from a grower's point of view but because it is the type of barley that is required in the export trade.

Supporting this contention, and also interesting to California barley growers because it shows how certain quantities of their product are used, are the facts reported to Dr. Wahl by the Bauer-Schweitzer Hop and Malt Co. of San Francisco, as follows:

"There was harvested in California in 1914 nearly 8,000 tons of two-rowed Chevalier barley, and this year we expect to harvest less than 7,000 tons. The amount of this particular kind of barley has decreased each year for the last twenty to twenty-five years, and no doubt will continue to decrease, as it requires better land than it does to produce our regular Bay Brewing barley. This land is becoming more valuable and farmers realize a better profit by producing fruits of various kinds than by producing Chevalier barley.

"Of the quantity of Chevalier barley harvested in 1914, about one-third was used for malting, one-third exported, and the balance purchased by the various milling companies in San Francisco for the manufacture of pearl barley.

"No breweries on the Pacific Coast today use 2-row Chevalier malt for brewing. The malt manufactured from this 2-row barley has been exported to Mexico, Central and South America, and the Orient. These countries previously received their supplies from Europe and at first demanded all the 2-row Chevalier malt that we could possibly obtain, but we understand that as far as quality is concerned, our Bay malt is now replacing the Chevalier, and they do not intend to use any more 2-row Chevalier malt. We have obtained the same report from the Scandinavian countries, and have been advised from personal representatives from these countries that our Bay barley and Bay malt will never be replaced there."

This, then, is the reason why the score stands: California Barley: 6 to 2.

President Wilson has ordered 5,800,000 acres in Alaska thrown open to homesteaders. Warning, however, has been given that the land is not much fitted to agriculture.

Spalding-Robbins Disc Plows

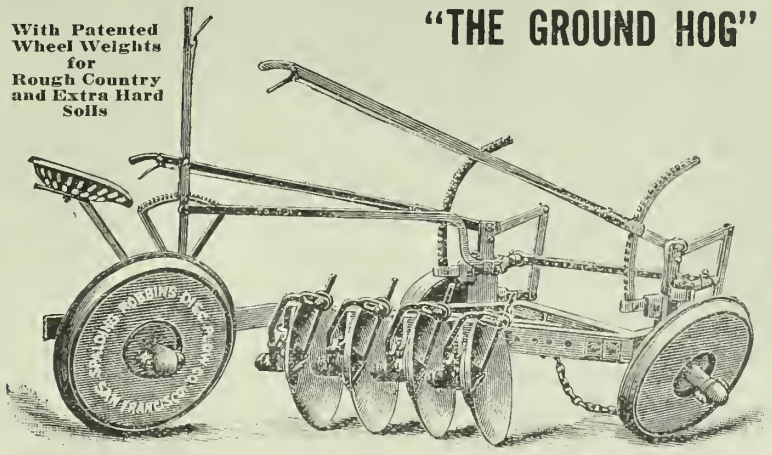
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MR. FARMER, DO YOU KNOW that over 1,000,000 California acres were not cropped last season, largely because weather conditions interfered with plowing? Were you among the losers? Don't be caught again. With "The Ground Hog" no matter how hard and dry your soil, you can plow this fall before the rain sets in—insuring big crops. European demand insures you big prices.

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IN SETTING FRUIT TREES—this implement makes digging the holes the easiest of tasks. Where trees are all ready planted it breaks up the plow-pan and allows the moisture to get down to the roots. Breaks a strip of ground from 3 to 4 feet wide.

BUILT SOLID AND STRONG—guaranteed for a 25 H. P. pull—and has been used behind a 35 H. P. machine.

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DITCHER ATTACHMENT—with this attachment you can ditch as you sub-soil, making a ditch 2 feet deep and 4 feet wide.

WRITE FOR MORE PARTICULARS—ask us anything you want to know about the subsoiler and ditcher—and for names of those who are using it.

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Pacific Rural Press

Mechanical Power on the Farm.

FEED GRINDING SAVES HAULING.

[Written for Pacific Rural Press.]

Growing feed, hauling it to town to be ground, and hauling it back for the stock often make ground feed more expensive per unit digested than whole corn raised and fed on the farm.

C. F. Peterson of Sonoma county raises corn and finds profit in grinding it and other feed for the cows, pigs, and poultry. The corn is kept in a slatted crib, by the side of which is a lean-to machine shed. Near the end of the crib is a corn sheller and a grain grinder, set one beside but behind the other, so that the belt wheels which run both are in line with the engine, one belt wheel being removed out of the way of the belt when the other machine is being run. The belts run through the side of the crib to a 6 h.p. John Deere engine set under the lean-to on three 6x6s bolted crosswise, on two 4x8s which are set edgewise and the ends cut sled-fashion so that the engine may be easily hauled to other parts of the place when needed for other work. The engine is braced against the corn crib by two 2x4s, and the machines are held in place by cleats on the floor. Additional protection against the weather is afforded the engine by heavy canvas.

BLOCK AND TACKLE BUTCHERING.

[Written for Pacific Rural Press.]

When we butchered hogs in the dead of winter on the farm back in Iowa, one straining job was lifting the more-than-200-pound hog into a barrel and sloshing it up and down in the semi-hot water, then pulling it out, and sousing the other end by the armstrong method.

R. H. Miils of Bennett Valley butchers all through the summer and winter for local markets, but doesn't strain his back lifting the carcasses. He hooks onto each with double-single block and tackle hung to the rafters, using a ¾-inch rope. With this he lifts the carcasses off the floor and scalds them in a half barrel at pleasure. One man does it more easily than two men could by main strength and awkwardness.

TRACTOR POINTERS.

[Written for Pacific Rural Press.]

"We use our tractor for plowing, harvesting, grading, or leveling the land, and would not do it any other way," says Garber & Jones of Tulare county.

"Our advice to others who might intend to get tractors would be not to buy too large a machine, but be sure also that you do not get one too small. Medium sized machines give better results, and we like the track laying types best.

"The intending purchaser should consider the width of the track, weight of the machine, and the convenience in getting new parts."

HILL SPRING FURNISHES POWER

[Written for Pacific Rural Press.]

Power to milk, separate, and churn the cream from 36 or more cows has cost T. B. Roy practically nothing since about 1893, when he put a 160,000 gallon reservoir high up in the foothills above the dairy. An ever-flowing spring keeps this about full and the water is piped down to the dairy where it has a 50-pound pressure.

It is run through a half-inch nozzle into a Pelton water-wheel about 18 inches in diameter. The water-wheel runs a line shaft to the separator and to the milking machine pump. A belt also runs through the floor to the churn in the basement, where even in the driest time of the year over 200 pounds of butter are churned every week.

The waste water runs through a tank in which the cream is set to cool; for the churning comes only every third day at this season.

Another water-wheel with a ¾-inch nozzle and a heavy fly-wheel is attached to a grind stone in one direction and to a circular saw in the other. The fly-wheel makes it possible to rip out boards 10 inches wide without sticking the saw. The belt is run as loose as possible to reduce the strain on the bearings. The saw is also used for cutting stovewood for the house. A cord of dry wood has been cut through three times in 29 minutes. All that is necessary to start the engine is to turn the hand screw and no further attention is necessary.

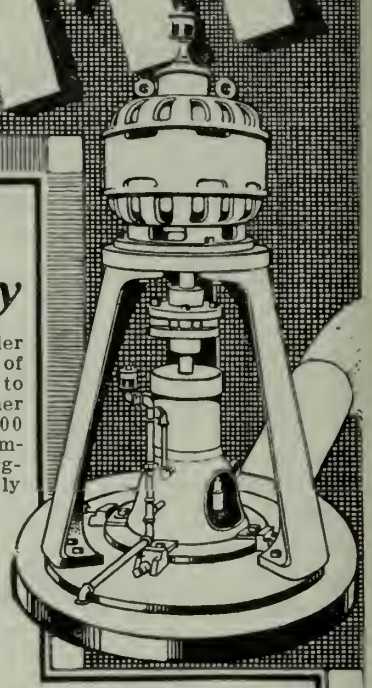
GRINDS FEED AT HOME.

[Written for Pacific Rural Press.]

Ground feed is more economical for hogs than whole grain or rolled barley on account of the husk, which prevents the action of the digestible juices and the grains pass through whole. E. C. Rand of Sonoma county has a machine which grinds corn on the cob, and barley too, without changing adjustments. This ground feed is especially needed since he disposed of his cows.

A 6 h.p. Woodin & Little engine runs the grinder and a line shaft which runs into the separator room, though the separator is not now used. In the opposite direction from the grinder and outdoors is a circular saw for the wood needed at the house.

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Any Capacity

This pump posseses a much wider range of capacity than other types of deep well pumps. There is a size to meet your particular needs whether you desire to produce 200 or 4500 gallons per minute. The most competent water engineers and the largest irrigators in the West highly recommend the Layne & Bowler pump for all requirements. Why? Because its principle of construction is absolutely correct, and it will positively produce the largest amount of water at the lowest cost. You will be doing a wise thing by installing this pump, and remember—a good pumping plant is the best crop insurance policy you can be protected with.
Our new valuable irrigation booklet No. 25, just published, tells all about this wonderful pump and gives other valuable information about irrigation. Write at once for a copy. It's free.

See our big exhibit of pumps in the Palace of Machinery, San Francisco Exposition. Every rancher and prospective irrigator should see this interesting exhibit.

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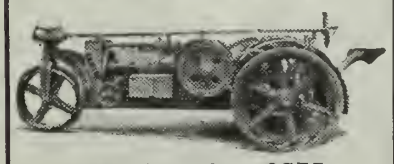
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Dealers in PAPER
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SAN FRANCISCO Los Angeles Portland, Oregon

STEAM BOILER ON DAIRY.

[Written for Pacific Rural Press.]

On a grain ranch it is no fun to turn the grindstone to sharpen the sickles; it is no fun where all of the wood used on a ranch is grown and chopped on the place, to sharpen the axes; and where a great deal of milk is handled it is no fun to keep the water hot and handle it in washing the utensils.

John Lynch who has a combination dairy and grain ranch in the hills west of Petaluma gets this disagreeable work done easily. A steam boiler furnishes steam to heat the water in the dairy cans, buckets, separator, and other equipment, and to sterilize them afterwards; and it furnishes power to separate the milk, saw wood and supply itself with fuel, and the house also, and to run the grindstone.

It is a small upright boiler and it runs a little upright steam engine for the power, and supplies steam through a pipe to the screened separator room. The steam is directed into the cans and other utensils as desired by a rubber hose on the end of the pipe; a light belt over the doorway runs the separator, steam pipes in the other direction extend to an open shed where the cans and buckets are washed.

Being so far from town and so high above it, coal would be as expensive by the time it is hauled to the ranch as it is disagreeable to the housewives; and since most all the wood is grown on the ranch, the engine and circular saw and the grindstone solve the problem of cheap, easily-obtained fuel.

ENGINE AND PUMP ON TRUCK.

[Written for Pacific Rural Press.]

An engine and pump fixed up for use on various parts of a large farm was operated recently by C. H. Pachett of Alexander Valley to save his alfalfa from untimely death by pumping from a big, shallow well dug in the center of the patch and distributing the water by way of canvas pipes.

A 3-inch Krogh centrifugal pump is set on a 4x4 and a 4x6 on the back of a small truck, having a 2-inch plank bed. A 6 h.p. Root and Vandervoort engine is set on the same timbers over the front wheels. It runs a pump by a short 6-inch rubber belt crossed between engine and pump to get the greatest bearing surface on the two belt wheels. Two horses move the outfit to whatever parts of the ranch it may be needed.

MAKES SEPARATING EASY.

[Written for Pacific Rural Press.]

Five gallons of gasoline separates the milk for five weeks in this dry season for W. J. Farley of Marin county, who has 50 cows altogether, though many of them are dry now.

The separator has a capacity of 1200 pounds of milk per hour, the power being furnished by a Baker & Hamilton 2½ h. p. engine. A line shaft also runs a green feed cutter for the poultry. Sixteen sows now get the benefit of the skim milk, but in the spring when the grass is green and more cows are fresh, they have 60 or 70 pigs, so that the milk separating would be no small task.

Growers of San Jacinto and Hemet are considering the erection of a co-operative cannery and pre-cooling plant.



Make *Rain* While the Sun Shines

Nature rarely sends rain exactly when and in the quantity needed. Therefore, artificial watering of crops is essential to successful farming. The secret of prosperity on the farm is to be able to "make rain while the sun shines."

G-E ELECTRIC MOTORS FOR RANCH AND FARM

are the best form of crop insurance. These motors are ideal for driving irrigation pumps because they are always ready to run, do not get out of order and require practically no attention.

After the irrigation season is over the pump motor can usually be used to run other farm machinery at great saving of time, labor and expense.

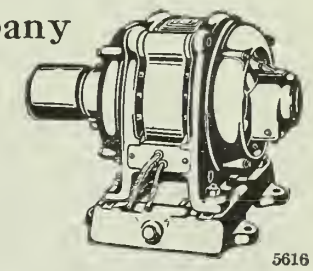
Ask our nearest office for irrigation booklet B-3276

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Los Angeles Office:
124 West 4th Street
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Rialto Building

The General Electric Company will gladly answer all questions relating to the use of electric power for ranch and market garden irrigation.

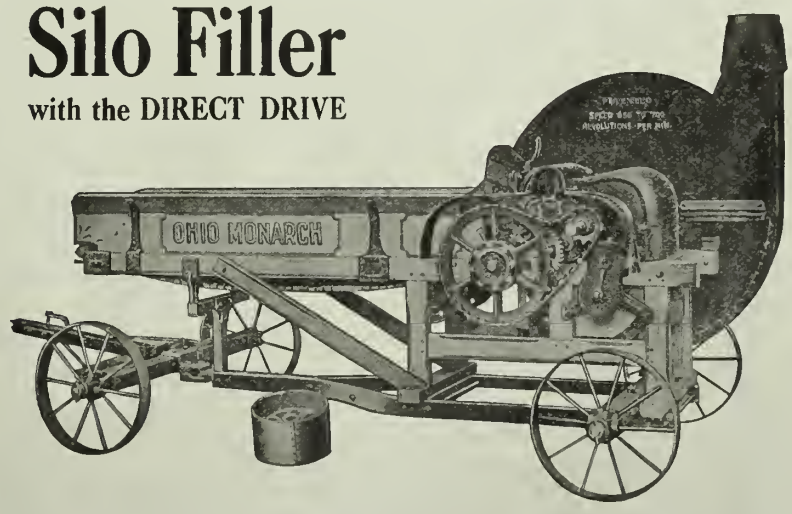
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with the DIRECT DRIVE



The most complete line of Feed Cutters built today. The Ohio Cutter is the only machine with drive pulley, cutting cylinder, Fan and Fly wheel on one shaft; there is no transfer of power from knife shaft to blower.

The machine here illustrated is made in five sizes—12, 15, 17, 19 and 22 inch throat, making it the largest capacity and most powerful feed cutter made.

A regular Base can be supplied if so desired.

Send for 1915 Catalog and Poster to

THE JOHN DEERE PLOW CO. OF SAN FRANCISCO.

General Agricultural Review.

CITRUS AND SEMI-TROPICAL.

F. O. Popenoe of Altadena has 40,000 avocado trees, mostly of the nursery stock.

A date growers' association has been formed at Coachella in Riverside county.

Valencias from the Ford Ranch near San Fernando recently sold in Boston for $5 a box.

An up-to-date packing house is to be built at Porterville by the Mid-California Citrus Association.

Fumigation for black scale will shorty commence in Riverside county and continue until after the first of the year.

The cost of fumigation in Tulare county is much higher this year than last on account of the price of cyanide having increased.

Seventy-five per cent of a normal yield of early navels will be shipped from Tulare county this fall, according to a report just received.

The Associated Orange Distributors of Southern California have leased a large packing house at Porterville to be ready for the fall business.

An effort is being made by the California Fruit Growers' Exchange to secure the endorsement of the Butte county Citrus Association for the continuance of the eight-to-one test for oranges, to which they were opposed.

DECIDUOUS FRUITS.

A full crop of prunes is reported for Glenn county.

Colusa prune growers expect the largest crop in many years.

The first car of the new peach pack left the Porterville cannery for Chicago last week.

Grass Valley is shipping the first Bartlett pears from that district to the eastern markets.

A good prune crop is reported from the orchards about Healdsburg and northern Sonoma.

The Porterville Cannery recently made a new record of 41,645 cans of peaches in one day.

A carload of prunes daily is being received at the packing house of Miller & Gobbi, Healdsburg.

On the ranch of E. B. Miller near Hanford a freak combination of peach and nectarine was grown.

The many independent drying plants in the vicinity of Yuba City have commenced a busy season.

Growers in the Palermo and Wyandotte sections of Butte county have commenced drying their peaches.

New South Wales imports great quantities of American apples, according to a recent commerce report.

The first box of inspected apples from Pajaro Valley were shipped last week by Raphael & Murphy of Watsonville.

One hundred tons of Bartlett pears from 15 acres near Modesto have just been harvested by Mrs. Katherine McClure.

Persistent work is being done by County Horticultural Commissioner H. P. Stabler, in fighting the tree and vine pests throughout Sutter county at this time.

GRAPES AND SMALL FRUITS.

The raisin grape crop in Fresno county vineyards is now ready for the pickers.

The prospects are for a fair crop of grapes in the Gilroy section of Santa Clara county.

It is stated that a car of Dinuba Malagas brought $1,290.55 on the Eastern auction market.

The Pacific Fruit Growers' Exchange of Sacramento may purchase the Arbuckle Tokay crop.

Large shipments of Thompson Seedless grapes are daily being made from Atwater, Merced county.

The Kings County Packing Company at Armona has canned 50 tons of grapes as an experiment.

On August 17, about 4,000 Japanese laborers commenced picking the Malaga grape crop in the San Joaquin valley.

The grape crop from northern California is reported to be but 60 per cent of normal on account of mildew damage.

Cleanliness is the best means of eradicating the raisin moth, according to Prof. Bioletti of the University of California.

The great winery plant on the Stanford Ranch at Vina was completely destroyed by a fire of unknown origin recently.

Tulare county has the heaviest grape crop in years; and as the product is the first on the eastern market, the prices are above normal.

A heavy demand for seedless raisins is expected by the California Associated Raisin Company, England having already sent over a large order.

One thousand tons of Sun-Maid raisins will shortly leave Fresno for eastern points, being shipped by the California Associated Raisin Company.

It is the opinion of the officials of the California Associated Raisin Company that the entire 1915 crop of seedless raisins will have been sold by August 23.

It is stated that 200,000 acres of vineyards planted with European vines have been destroyed in California by phylloxera since its introduction into this country.

On August 18, 1915, the California Associated Raisin Company of Fresno sent out Price List No. 9 covering the 1915 crop, effective August 19, 1915. Prices on Thompson Seedless and Sultanas will be as follows: 50 lb. cases, 6¾c; 1 lb. packages, 7¾c; 12-oz. packages, 6¼c. Sultanas, 50 lb. cases, 6¼c; 1 lb. packages, 7¼c; 12-oz. packages, 5⅞c. The above prices are for capstemmed and recleaned stock. Above prices guaranteed to December 31, 1915. Goods not shipped by December 1, 1915, must be paid for at that time. Bleached Thompson Seedless Raisins from the Marysville and Yuba districts, Extra Fancy, 50 lb. cases, 8½c; Fancy, 50 lb. cases, 8c; Choice, 50 lb. cases, 7¾c. The prices on Bleached Thompson Seedless Raisins will not at this time be guaranteed, not knowing to what extent bleaching may be done in the San Joaquin Valley.

OLIVES AND NUTS.

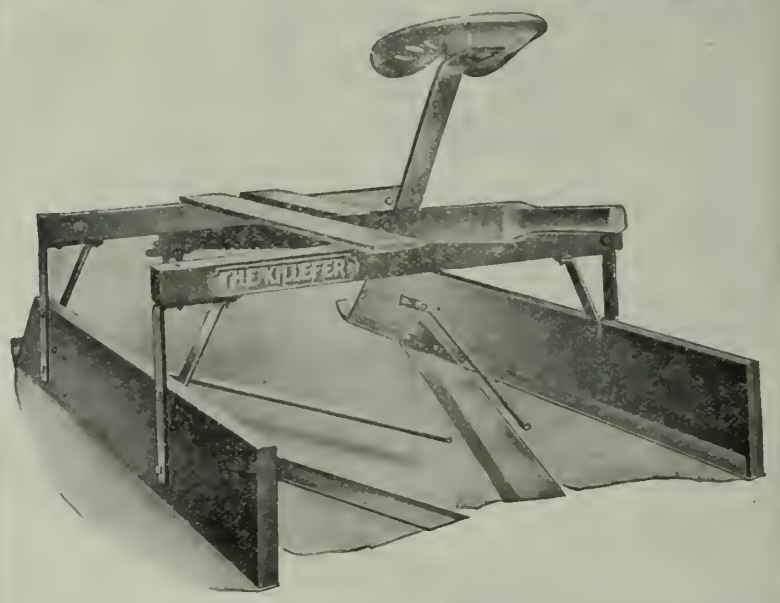
The harvesting of almonds has commenced in the Yuba City district.

Almonds are being harvested in the Oakdale section of Stanislaus county.

Killefer Bean Cutter (K)

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A Bean Harvester is used only a few days each season, and we have found, after building various styles of Wheel Harvesters, that the rancher preferred a strong simply made Sled Cutter.

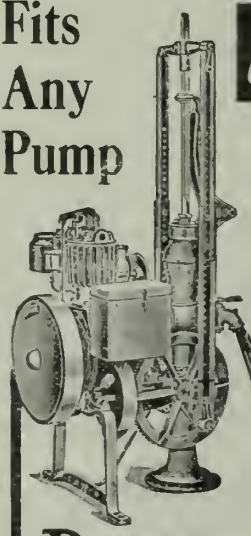
The work done by this tool cannot be excelled and is seldom equalled by any of the so-called Adjustable Harvesters on the market.

Extra Blades for all styles of Bean Harvesters are carried in stock.

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Fits Any Pump



Power

The Farm Pump Engine is also a complete power plant in itself. Relieves you of turning cream separator, churn, washing machine — in fact, anything that can be hitched to it. Runs steadily and easily and without vibration.

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Let us explain in detail just what this pump can do and why it will pay you to own one. Send for our free booklet.

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Fuller & Johnson FARM PUMP ENGINE

This Farm Pump Engine has been rightly called "the mainspring of the farm." Can be attached directly to any pump without extra fittings, special platform or foundations. It works in any kind of weather and will supply all the water needed for home or stock in the hottest and calmest days—for household or garden use—for washing buggies—fighting fire—for cooling porches—sprinkling lawns, etc.

No extras to buy. Comes complete in one crate, ready for instant use.

Remember there are 73 years of honest manufacturing experience behind this

Farm Pump Engine

It is not to be compared with cheap articles of the same sort, which are built merely to sell. This engine is guaranteed and once you use it you'll say it's the best investment you ever made.

Our Low Price will surprise you.

Water

An olive pickling plant on a co-operative basis is under consideration by Oroville olive growers.

It is estimated that the Durham Almond Growers' Association has purchased 250 tons of almonds from its 110 members.

GRAIN AND FIELD CROPS.

A bumper rice crop is predicted for Colusa county.

California's rice crop is estimated to be twice as big as that of 1914.

It is estimated that Kings county 1915 alfalfa will be worth $2,500,000.

Cuba's sugar crop is estimated at four million tons at the present time.

Alfalfa hay in the vicinity of Modesto is selling for $7 a ton in the shock.

A large crop of beans is being harvested in the Delano district of Kern county.

Beans will be harvested in the Oakdale section within a couple of weeks.

France has authorized the purchase of at least 20,000,000 bushels of wheat.

About twenty cars each of cantaloupes and watermelons leave Turlock daily.

Experiments in Sudan grass growing in Sutter county are reported successful.

Atwater is shipping sweet potatoes to the Coast markets, growers receiving $2.50 per cwt.

The Beaumont bean season is in full swing; fully 400 acres are expected to be harvested.

It is estimated that Imperial Valley shipped $3,000,000 worth of cantaloupes this season.

The prospects are reported to be excellent for a good rice crop in Yuba county this season.

Thirty thousand slabs of spineless cactus were recently shipped by H. R. Timm of Dixon to Fresno.

E. I. Feemster of Hanford has produced a white tomato which he says is superior to the red variety.

Sonoma county hop growers are endeavoring to employ nothing but home labor in their fields this season.

The Santa Cruz Land Company recently purchased 523 acres near Oroville, expecting to plant the tract to rice.

Beans are being harvested in Kings county; prices varying from 5 to 7 cents a pound were easily obtained.

One thousand tons of beans grown on the Sacramento river bottom lands were recently shipped to the European markets.

Although the California alfalfa crop may not come up to expectations, seeds will be more abundant than in 1914.

Large shipments of alfalfa to the East are reported from Hanford by the California Alfalfa Growers' Association.

One thousand tons of alfalfa hay were recently bought from the Glide Ranch at Dixon by the Dixon Milling Company.

Practically all of the late sown beans around Sacramento are reported to have been destroyed by wire worms.

A mammoth cucumber, eight feet long and five feet around, has been produced on the farm of S. P. Gregory of Selma.

Twenty prominent lima bean growers recently met at Santa Ana to devise means of getting better prices for their product.

Ralph Barker of Lockeford is the winner of the potato growing contest of the Boy's Farm Club of the Lodi Union High School.

Orange county lima bean growers are endeavoring to form a co-operative association for the purpose of marketing their product.

It is stated that California's potato crop will be one-fifth less than it was five years ago; the decline is due to a fungus attack.

A meeting of potato growers of Sonoma county is to be called for some time in September by the State Horticultural Commissioner.

The Biggs rice crop is reported to be looking fine with prospects for a bumper crop. The season is about two weeks earlier than last year.

With a large increase in dairy herds and a considerable less acreage planted, Stanislaus county faces an alfalfa shortage this season.

A report from Sacramento states that grain shipments from California to foreign ports are held down considerably on account of lack of ships.

Twenty cents a pound for new hops was the price recently paid in Santa Rosa for product from the Madison & Ballard fields of Mendocino county.

Judging of potatoes entered in the contest of the Chico High School Agricultural Club has commenced; the winner will be announced within a couple of weeks.

In the sub-irrigated lands of Yolo county, the alfalfa season is practically over on account of drying out of the land. The season has been cut short two months, only four crops having been cut.

MISCELLANEOUS.

Frank B. Edson has been appointed Bee Inspector of Yolo county.

Placer county's new farm adviser, E. O. Amundsen, arrived in Auburn Aug. 19.

Butte county land owners have been ordered to rid their premises of Russian thistle.

A large tract of land belonging to Miller & Lux at Berenda, Madera county, is to be colonized.

It is planned to make the San Joaquin Valley Counties' Association a permanent organization.

Dudley Moulton has been appointed County Horticultural Commissioner of San Francisco county.

The first tractor in Nevada county made its advent recently on the Loma Rica Ranch near Grass Valley.

The subdivision of the Thos. D. Orr ranch of 800 acres in Mendocino county into 10 and 200 acre tracts has taken place.

An agricultural experiment station is to be established at the California Polytechnic School, San Luis Obispo, in connection with the University of California.

The Buena Vista Farm Bureau of Nevada county was recently reorganized and new officers chosen for the ensuing year.

A list of 372 individual prizes has been prepared by the Committee on Awards of the Merced District Fair at Merced in September.

Water users of the Palermo district of Butte county have formed the Palermo Water Users' Association, with 500 acres already signed up.

Active work is being done by the various committees in charge of the State Fair at Fallon, Nev., during the week beginning September 20.

August 23 was Tehama County Day at the Panama-Pacific Exposition; and Southern California Counties Day was celebrated on August 26 and 27.

With the supply of water lower than it has been for many years, farmers in the irrigated sections of Merced county are facing a very serious problem.



ORCHARDISTS find sand cultivation difficult. Until a recent date no suitable tractor had been placed on the market that met this peculiar condition.

THE YUBA BALL TREAD TRACTOR has met and successfully overcome this difficulty. Its distinctive features have made this possible.

The Ball Tread does not sink in the sand. The balls are large enough to crush any particles of sand that enter the ball race. The compactness of the machine permits it to run under the fruit-burdened branches without injuring them.

The unique transmission allows the machine to get close to the trees and eliminates one man from the plow; because the full power of the motor can be thrown on one tread it is unnecessary to lift the plow in going from one row to anotner.

Yet the Yuba Ball Tread Tractor has power enough to work equally as well in heavy adobe soil as in the shifting sand.

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Factory at Marysville, California 433 California St., SAN FRANCISCO, CALIFORNIA

THE YUBA BALL TREAD TRACTOR

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433 California Street,
San Francisco, California
Department A-4

Gentlemen:
Kindly send me a copy of your booklet "The Yuba Ball Tread Tractor."

Name .....
P. O. Box .....
Town .....
State .....
Size of Farm.....acres.

CHECK MAIN CROP RAISED

Fruit ..... Rice .....
Grapes ..... Alfalfa .....
Grain .....Hops .....Hay .....

California's Opportunity for Dairymen.

[Written for Pacific Rural Press.]

TO IMPROVE THE QUALITY OF CHEESE.

In our issue of August 7, it was pointed out that both the manufacturing and marketing of California cheese was in poor condition. Since that issue we have received the following communication from the San Francisco Wholesale Produce Exchange which shows that immediate steps are to be taken toward the developing of the cheese industry. The communication is as follows:

"The condition of the cheese market, in so far as the California product is concerned, is unsatisfactory in the extreme. California cheese sells at a discount here in competition with Oregon, Wisconsin and New York cheese. It should be understood that California cheese is not manufactured by the same process that is used in making cheese which comes from other States. There is a demand in California cities for California-made cheese. Formerly there was a demand in the Hawaiian and Philippine Islands and the Orient for California-made cheese. Such is not the case today; those markets have come to prefer Oregon and Eastern cheese. The reason for this preference is not because the cheese comes from other States, but because it is manufactured by a different process. Over 99 per cent of as 'hand-stirred or 'stirred curd' cheese, while all the cheese which comes to San Francisco from other States and which is exported from this market is made by what is known as the "Cheddar" process. The result of this condition is that all cheese made in California by the hand stirred process must be consumed within the boundaries of the state. It is impossible to find a market for it elsewhere. This explains the difference in market prices and why cheese making in California is becoming unprofitable.

"Cheese makers can obtain a higher price for their cheese if they will adopt the Cheddar process, and the industry can be increased by the merchants regaining the export trade which has been lost in the past few years. The difference in price between 'California Old Style' and 'Cheddar Type' cheese at the present is about 1½c per pound, but the average difference based upon a year's figures is from 3 to 4c per pound.

"Realizing that a continuance of present conditions must result eventually in the elimination of California cheese, the San Francisco Wholesale Dairy Produce Exchange has established a classification for California Cheddar Type Cheese whereby cheese made by the Cheddar process, such as is used in the manufacture of cheese in Oregon and other states, may now be purchased and sold at its true value on the San Francisco market.

"The cheese factory on the farm of the University of California located at Davis has been making some cheese of the Cheddar type. This Exchange has carefully investigated and has tested the quality of the cheese made at University Farm. We are pleased to be able to state that the result of our investigations satisfies us that Cheddar Type cheese can be made in California of a quality equal, if not superior, to the quality of Cheddar Type cheese made in Oregon or the Eastern states.

"We earnestly urge California cheese makers to investigate this subject, learn to make Cheddar Type cheese and proceed to establish themselves as manufacturers of this kind of cheese. The Exchange has created the machinery by which such cheese will be recognized and sold at its true value and the College of Agriculture is ready and willing to give all necessary instructions and advice. Cheese makers are respectfully urged to correspond with Prof. H. S. Baird, Division of Dairy Industry, University Farm, Davis, Cal., for complete detailed information."

BEST SEASONS FOR COLT FOALING.

To the Editor: May I ask if there is any serious objection in breeding a mare so that she will foal in midsummer? It is pretty warm here in summer. I have only to mow and haul hay in summer and can get plenty of neighbors to help me at that, but in the fall and spring I have the heavy work of plowing, planting, etc., when the weather is favorable and neighbors' horses are not available. So I wondered whether it would be all right to breed a mare in August if she would take the stallion.—Subscriber, Tehama county.

in hot sections do not do as well as either spring or fall foals. The heat and flies seem to combine in retarding a rapid growth, but aside from that there is no reason we know of for not breeding in August. If your fall work does not start till after the fall rains it would be preferable to breed for fall foaling, say in October. By the time your real heavy work commenced in, say, December the colt would be old enough to permit of working the mare if you provided some feed for the colt. Fall foaling is not considered so desirable as spring foaling as there is very apt to be a lack of exercise provided for the colts in winter.—Editors.]

PASTEURIZING OR TUBERCULOSIS TEST.

To the Editor: I am in the dairy and milk delivery business. At the present time I sell my milk in bottles. My cows are not tested for tuberculosis. By the the new law I will have to have them tested or pasteurize my milk and I am in doubt as to which method to follow. Now, if a person has his cows tested there are many ways by which the milk may become contaminated from the time it leaves the cows till it gets to the consumers. I think that it may be wise to pasteurize, but I don't know whether my sized dairy will stand the expense. I am selling the milk from 10 cows now and will be selling from 12 or 14 in the winter. Could you let me know about the initial cost of a pasteurizing plant? I get six and a half cents a quart for six months of the year and seven and a half cents the other half. Would I have to increase the selling price in order to pay the running costs of pasteurizing?—H. W., Sonoma.

[The initial cost of a pasteurizing plant depends solely upon your conditions. A pasteurizer with a capacity of 50 gallons costs about $200. This does not, however, include boiler, sterilizer or refrigeration plant, which would very likely run the total cost up to about $750. The interest and depreciation on such a plant, together with the cost of operation, would either have to come out of your present income or be added to the selling cost of your milk.

Pasteurized milk sells for 10c. a quart in the larger cities, so we see no reason why your customers should not stand the additional cost. That however is a matter for you to decide.

It would doubtless be far cheaper for you to have your herd tested for tuberculosis and sell the reactors. The cost of testing depends largely on the veterinary; the usual charge we believe is one dollar a head where the entire herd is tested. It is pretty generally supposed that the law you refer to will be modified, so we doubt the advisability of installing a pasteurizing plant solely on that account.

If you feel obligated to install a pasteurizer on account of your milk not being of good quality we would suggest that it would be cheaper and more satisfactory to hunt up the cause of contamination first. You will, we believe, find that it isn't so much a matter of equipment as it is one of cleanliness in handling. A clean dairyman can usually produce clean milk under adverse conditions, but a dirty one can not produce clean milk under the most ideal sanitary conditions. It is largely a matter of individuality.—Editors.]



1st Prize 2-year-old Cal. State Fair 1914.
Segis Pontiac de Kol Burke
The bull that combines the blood of the greatest producing families in Holstein history. He is an outstanding individual, weighing 2200 at just three years of age. His dam RIVERSIDE SADIE DE KOL BURKE, is the heaviest milker that the breed has ever developed. She and six of her sisters have records above 30-lbs. butter in seven days.
A few sons of this sire are now available, some of which are soon ready for service. Several are from half sisters to Aralia De Kol, 30-lbs. butter in seven days at 12½ years, 28090 lbs. milk and 1112 lbs. butter in one year. Prices reasonable.
Pedigrees and Prices on Application.
A. W. Morris & Sons Corporation
Box 398-D. Woodland, Calif.

FOR SALE
8 choice, registered tuberculin-tested
Short Horn Bulls
Aged 18 to 25 months.
Also 5 aged 8 to 13 months.
H. L. MURPHY,
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THE GUERNSEY
is popular among the dairymen who appreciate that Economical production, richness and fine flavor of products lead to larger profits.
Try Guernseys and be satisfied.
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For Sale
200 Unrecorded Pure-Bred
Shropshire Rams
in lots to suit.
These sheep are large and in fine condition. Can be seen near Firebaugh. Price on application.
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Hopland Shorthorns
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All Stock Registered.
Bulls of Highest Quality.
YOUNG SOWS AND BOARS
of finest
Breeding and Type.
Prices on Application.
HOPLAND STOCK FARM
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GOMBAULT'S
CAUSTIC BALSAM.
A safe, speedy and positive cure. The safest, Best BLISTER ever used. Removes all bunches from Horses. Impossible to produce scar or blemish. Send for descriptive circulars.
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Sales conducted in all parts of the State. Twenty-six years' experience. Write for terms. LINDEN STOCK FARM — Horses, Mules, Shropshire Sheep, Berkshire Hogs for sale. 704 Market St., San Francisco.

REGISTERED DUROC-JERSEY SWINE
Herd headed by Defender of San Waukeen, a son of the great "Defender." Gilts and sows bred to him for September farrow. Also young boars and gilts. Anything in herd for sale at bargain prices, including herd boar.
H. S. VAN VLEAR, Lodi, Cal.
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Expert Live Stock Auctioneers
Sales conducted in all parts of California and adjoining States. Write for dates and terms.
Twenty-five years' experience.
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FOR SALE
FOUR DUROC-JERSEY BOARS
Like all our herd, these are registered from "Col. Keen" and "Advancer 4th" stock. Farrowed April 10, 1915. In the best of condition. Write for prices and particulars.
RIVER BEND FARM, St. Helena, Cal.

POLAND CHINAS
(Large Type)
YOUNG STOCK FOR SALE
(Both Sexes)
THE BROWNING STOCK FARM
W. H. Browning, Prop.
Woodland, California

Is Prickly Wild Lettuce Poisonous?

An interesting question to stockmen is whether this plant is as bad as its reputation. Recognize the plant by the picture and description, and please write to us about what you are sure of about it.

To the Editor: The writer is enclosing a small piece of a plant which is new in this section, and from its rank and persistent growth it might become troublesome. We would like to know through your paper what it is, and if dangerous to stock. An old stockman just from Idaho told me it was known as "Chinese lettuce" in Idaho, and it was certain death to sheep if eaten by them, and that it has become a great drawback to farmers in their wheatfields by growing so rank as to kill out the wheat. Any information will be appreciated and thankfully received by your old subscriber.—C. P. Gould, Parkfield.

[Answered by Prof. P. B. Kennedy, University of California.]

The plant is Prickly Wild Lettuce (Lactuca scariola, var. integrata), and a close relative to our common garden lettuce. It is an introduced weed from Europe, and occurs from Nova Scotia to California, usually in vacant lots and waste places, but occasionally troublesome in fields.

When the plant is young the vigorous, and somewhat prickly leaves twist around during the day so as to keep the edge directed towards the sun, and for this reason it has also been given the name of Compass plant. The seeds bear a parachute-like apparatus by which it is easily carried about by the wind, and this, no doubt, is responsible for its wide distribution.

The plant reaches a height of from three to five feet, with a strong and long tap-root. Usually it produces only one main stem, but this is before going to seed, as with a mower it will send out from near the base several shoots of stems, all of which will reach maturity. Where cultivation can be carried on, as in intertilled crops or by summer fallow, no difficulty should be encountered in eradicating the plant, providing no seed is allowed to mature in near-by localities.

Cattle, sheep, and horses eat it quite readily when young. Its milky juice contains a substance commonly called lettuce-opium, which has been used in medicine as a mild sedative. The cultivated lettuce, after it has gone to seed, also contains this milky juice and the lettuce-opium, but in milder form. This, no doubt, is responsible for the general idea that eating large quantities of the garden lettuce makes one sleepy.

Now, as to whether the wild lettuce contains sufficient lettuce-opium to be poisonous to stock does not seem to be definitely known. Its wide distribution throughout the country, with no recorded instances of its being poisonous, would lead one to conclude that under ordinary conditions it is not harmful. The leading publications on poisonous plants do not make any statements in regard to this point, although some of them go so far as to say that it is said to be poisonous without giving any further data or specific instances in which any animals were known to have been poisoned.

I have myself seen sheep eat large quantities of this plant without any apparent ill-effects. If the inquirer has a sheep that he could spare and could feed it with this plant, he would be doing a favor to science as well as to the stockmen.



Prickly Wild Lettuce.

We would be pleased to hear more from the party from Idaho who considered it certain death to sheep.

It is generally recognized that this plant, as with nearly all plants with bitter milky substances, that if eaten in large quantities the milk becomes tainted.

GETTING WATER ON THE CATTLE RANGE.

The ordinary cattle range is more apt to be underwatered than overstocked, in the opinion of G. W. Barnes of the University of Arizona, who points out that the water supply on some ranges is so poorly located that the stock are required to walk long distances to quench their thirst, while other ranges are so poorly supplied that they are practically worthless for grazing purposes.

In locating the watering places several things must be taken into consideration concerning the character of the range over which the stock is compelled to travel to reach water, that is, whether it be mountainous or level, rocky or timbered. In mountainous or rocky districts stock should not be made to travel to exceed ½ to 2 miles for water, while on level ranges they may go as far as three miles. Of course when compelled to do so they will travel much further than this, but when they are compelled to exceed these distances, they are apt to enter the winter season in very poor flesh.

Greater and better development of the natural range water supply must be given attention by the stockmen. Windmills may be used with drilled or dug wells in connection with reservoirs large enough to support from 300 to 500 head per day at a very small cost, when the price of cattle is taken into consideration. Up to a depth of 500 feet the cost for drilling is about $1.00 to $2.00 per running foot, the casing will cost from 50 cents to $1.50 per running foot, and a windmill with cylinder, pipe, tower, etc., will cost about $125 to $300, making the well complete cost from $500 to $1000.

In order to improve the quality of their cheese, some 15 dairymen in the vicinity of Gonzales and Soledad have employed Albert Ely, an expert cheese maker of New York, to show them how to turn out a better product.

100 HEAD 100

Complete Dispersion Sale

OF THE

HOLSTEIN - FRIESIAN HERDS

of T. J. Gilkerson, Lemoore, and Heenan & Weldon, Sacramento, to be held at

Hanford, September 15th

80 head of cows and heifers, bred to the best young bulls in the West. The two herd sires, **Juliana De Kol King Segis** and **Prince Gelsche Walker Korndyke**, will be sold. Never again will the public be offered an opportunity to buy two bulls bred like these.

18 Granddaughters of the great sire **King Segis.**

6 Granddaughters of **Pontiac Korndyke.**

3 Daughters of **Admiral Burke.**

9 Daughters of cows with records of from 15 to 25 pounds butter.

6 A. R. O. cows, one of whom has an A. R. O. daughter. A fine young daughter of Juliana De Kol King Segis.

Several cows that are capable and will make A. R. O. records up to 30 lbs. The best bred and the best type of Holsteins that will be offered at the Fall sales.

20 young bulls from A. R. O. cows and sired by bulls from the Korndyke and King Segis family. 12 of them past yearlings ready for service.

Taken altogether, it will be a quality sale.

All animals over six months old tuberculin tested.

Catalogues will be ready about September 1st.

Address: DR. E. J. WELDON, Sales Manager, Box 962, Sacramento, Cal.

COL. BEN. A. RHOADES, Auctioneer.

FOR SALE

BULLS HOLSTEIN BULLS

Four very choice sons of DUTCHLAND SIR PIETERTJE CREAMELLE. Dam DUTCHLAND CREAMELLE, a 23-lb. cow. Grand Dam CREAMELLE VALE (world's record milk cow) Grand Sire, PIETERTJE HENGERVELDS COUNT DE KOL (99 A. R. O. Daughters, four over 31 lbs), and PONTIAC BUTTER BOY (59 A. R. O. Daughters, two over 31 lbs. and one who made 1227.78 lbs of butter in 1 year), son of KING OF THE PONTIACS, the most noted sire of the breed. No. 1 born Jan. 2, 1914. Dam PAULINE INKA DE KOL KATE, 20.80 lbs. butter from 485 lbs. of milk at 7 years.. Dams: Grand Dam, a 27-lb. cow.. Price. $200.. No. 2, born Feb. 7, 1914. Dam CEONE TAPPAN 2nd, 153978, 21 lbs. butter from 460 lbs. milk.. Price $200.. No. 3. Born April 5, 1914. Dam LADY PONTIAC PAULINE INKA 2nd, 18.62 lbs. butter from 458 lbs. milk. Dam's Sire KING OF THE PONTIACS 4th, whose sire is KING OF THE PONTIACS.. Price $200.. No. 4, Born May 24, 1914.. Dam KALSORA SEGIS GERT, 19.42 lbs. butter from 388 lbs. milk.. Grand Sire KING SEGIS BUTTER BOY, who has 127 A R. O. daughters, four over 27 lbs. Price $175. These bulls are good San Lorenzo individuals.

F. H. STENZEL, San Lorenzo, Cal.

GRANDSONS OF TILLY ALCARTRA

At Prices within Reach of Every Breeder and Dairyman.



A Grandson of Tilly Alcartra.

We have several splendid grandsons of this now famous cow which we can deliver to you at prices which will suit the pocketbooks of every dairyman wishing to improve the quality of his herd, whether it be a grade or pure-bred herd. These bulls are sired by our herd bull, Prince Alcartra Korndyke and out of A. R. O. cows, and are the only living grandsons of a cow having a record of over 30,000 pounds of milk in a year. Such an opportunity for increasing production has never been offered DAIRYMEN AND BREEDERS in California, price and quality considered. Buy one of these bulls and solve your low production problem. Write

J. S. Gibson Co., Box 97 Williams, Cal.

"THE NAME GIBSON INSURES QUALITY."

When Grain is High Feed DIGESTER TANKAGE

Whether intended for show or market, the hog attains perfect condition and more quickly and economically if his ration includes some DIGESTER TANKAGE. The growing pig needs DIGESTER TANKAGE as a bone and muscle builder. Write for free pamphlet on hog-feeding.

WESTERN MEAT COMPANY,

Animal Food Dept., 704 Townsend St., San Francisco, Cal.

With the Live Stock Men.

DAIRYING.

There are over 21,000,000 dairy cows in the United States.

There will be no National Dairy Show at Chicago this year.

E. E. Freeman, a Holstein breeder of Modesto, is planning to erect a silo in the near future.

A cow testing association is under consideration by the dairymen of Oakdale, Stanislaus county.

Milking machines have been installed on the dairies of A. J. Warnock, and Drayer & Son of Tipton.

The various creameries of Kings county paid $160,000 for butterfat delivered to them by the dairymen during July.

H. H. Sturill of Salida has secured a fine start in Holsteins and promises to make some good records with them soon.

H. E. Tong of Modesto has most of his cows freshen in the fall in order to take advantage of the high price of butterfat.

The Orland Cheese & Butter Company of Orland has transacted over $20,000 worth of business since its organization last April.

A co-operative cheese factory started at Satsop, Wash., in April is now receiving 7,000 to 8,000 pounds of milk daily.

Dot's Marie, a 12-year-old registered Jersey on the Hayworth Ranch, Modesto, is now making 40 pounds of 5 per cent milk daily.

Tulare county dairymen received $86,693 for cream delivered during July, quite an increase over the same month last year.

G. U. Clark of Hanford recently purchased the registered Holstein bull, Juliana King Korndyke, from B. F. Anderson of Modesto.

J. R. Pearson of Modesto is preparing to buy a few registered Holsteins and hogs; he believes the better the stock, the bigger the profits.

The Stanislaus Creamery at Modesto is churning 4,000 pounds of butter daily; and is also shipping to San Francisco 500 gallons of sweet cream every day.

The Creamcup herd of Holsteins belonging to Miss M. Holdridge is being tested by Earl M. Dobbs, sent out by the University of California for the Holstein-Friesian Association.

F. P. Olmstead of Stanislaus county has recently had erected on his farm northwest of Modesto a 50-ton silo. Mr. Olmstead is gradually working into the purebred Jersey business.

C. T. Morse of Modesto, a young Holstein breeder, reports that one of his cows produced in 10 months 437.4 pounds fat; another, 397.4 pounds in 11 months; and a third, 370 pounds in 10 months.

Artis Belle King, a two-year-old Holstein owned by B. F. Anderson of Modesto, made 10.46 pounds butterfat in 7 days. Nine months later, she produced 9.16 pounds fat in 7 days or only 1.3 pounds less fat.

Great success is reported for the Co-operative Creamery at Petaluma, 463,466 pounds of butter having been made the first six months of this year at a cost of one and one-half cents per pound.

Contrary to rumors, the condensed milk plant of the Alpine Evaporated Cream Co. of Gonzales, has not been sold. But as the market is overstocked with the finished product, its dairymen customers have been asked to make cheese of their product until market conditions are relieved.

CATTLE AND SHEEP.

W. C. Dallas of Merced recently shipped two cars of calves to the San Francisco market.

According to a report, Miller & Lux are scouring the State for feeder stock for the coming winter.

Two blooded Durham bulls were recently purchased in Petaluma by E. H. Smith of Mendocino county, to improve his stock.

The J. R. Garnett and Butte ranches of Glenn county are reported to have been leased by a cattle and sheep syndicate.

Five hundred and eighty head of beef cattle were recently sold by John Bryan of Monterey county to a San Francisco butcher.

It is stated that steer hides bring 25 cents a pound in Boston at the present time, which is a higher price than they have ever commanded.

It is reported that all the long wool in the Ukiah section of Mendocino county, with the exception of one lot which the grower is holding for 30 cents a pound, was sold to the New Jersey Spinning Mills of New Jersey for 27½ cents per pound.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

DAIRY CATTLE.

INCREASE QUANTITY AND IMPROVE QUALITY of your milk by using a Guernsey Sire. We can furnish choice imported or home-bred bulls from big record cows at attractive prices. **Imp. Itchen May King 25174**, the best living May Rose bull, heads the herd. See him and his calves at San Francisco Exposition. Come and see our Guernseys, or send for price list. **Edgemoor Farm**, Santee, California. Walter H. Dupee, Proprietor.

REG. HOLSTEINS—We offer choice grandsons of King Segis, also grandsons of the world's record cow. Creamelle Vale; blood that increases the value fo your herd. Write or call and see our herd. F. H. Stenzel, San Lorenzo, Cal.

HOLSTEIN BULL, 16 months old—Grandson of the King of the Pontiacs. Dam A. R. O. cow, produced 807.87 lbs. of butter in 10 months. Price $350. Write for pedigree. J. A. Pelanda, Modesto.

SUNNYBROOK RANCH, WILLITS, CAL.—Breeders Registered Holstein Stock. Young bulls for sale ready for service. Sired by De Kol Fobes Homestead 6th. Prices reasonable.

FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

FOR SALE—About 60 head of fine dairy heifers from 6 month to 2½ years old. Grade Jersey and Holstein, J. S. Smith, 226 Alameda Ave., San Jose, Cal.

REGISTERED HOLSTEINS—Young bulls sired by King of Riverside and Lakeside Model Prince from A. R. O. fame. J. R. Harlan Co., Woodland.

70 HEAD OF A. NO. 1 Holstein and Durham Dairy cows for sale. Price $80 per head. J. E. Cain, Jr., P. O. Box 42, Arbuckle, Cal.

HOLSTEIN BULLS—Pure-bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

AYRSHIRES—For sale, fine young bulls from imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

THREE REGISTERED JERSEY BULLS—Dams big producers. Sires dam 691 lbs. butter cow. Prices right. C. D. Hayworth, Modesto, Cal.

REG. GUERNSEY BULLS for sale. Grapewild Farm, Mayhews, Sacramento county, Cal. A. B. Humphrey, Prop., P. O. Box P.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class, thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

REGISTERED HOLSTEIN BULLS—Serviceable age. From finest strains. Panama Pacific Dairy, Sutter Creek, Cal.

JOHN LYNCH, breeder of Registered Shorthorns. Milk strain choice. Young stock for sale Box 321, Petaluma, Cal.

REGISTERED JERSEL BULL CALF—Six months old—a fine animal. $40 if sold soon. O. J. Ames, Oakdale.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

HOLSTEIN-FRIESIAN CATTLE and Berksbire Hogs. H. B. Goecken, Breeder, Goecken Heights, Livermore, Cal.

FIVE REGISTERED HOLSTEIN cows and four heifers priced for quick sale. K. W. Abbott, Milpitas, Cal.

REG. JERSEYS—Herd established 1868. Young bulls from best cows. Rancho Dos Rios, R. 2, Modesto.

RECISTERED GUERNSEYS—Both sexes for sale. Mrs. Charles G. Lathrop, Stanford University, Cal.

RECISTERED HOLSTEINS—A. W. MOBBIS & SONS, Corp., Importers and Breeders, Woodland, Cal.

REGISTERED HOLSTEIN BULLS from A. R. O. dams. J. W. Benolt, R. 2, Modesto, Cal.

CREAM CUP HERD—Registered Holsteins. Pontiac bull calves. M. Holdridge, Modesto, Cal.

RECISTERED JERSEY CATTLE—Young stock for sale. W. J. Hackett, Breeder, Ceres, Cal.

SUNNYSIOE HERD—Registered Holstein cattle. R. F. Guerin, R. 3, Box 58, Visalia, Cal.

RECISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

RECISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma.

A R. O. RECISTERED HOLSTEIN BULLS for sale. Millbrae Dairy, Millbrae, Cal.

BREEDERS OF RECISTEREO HOLSTEIN CATTLE—McAlister & Son, Chino, Cal.

BREEDER of Registered Holstein Cattle. Ernest Otto McClure, R. 2, Modesto, Cal.

REGISTERED JERSEY BULL two years old. Gentle. O. J. Ames, Oakdale, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto.

LINWOOD FARM—Registered Holsteins and Imported Guernseys, Santa Cruz, Cal.

RECISTER OF MERIT Jersey Bulls. $75 and up. Murray & Jones, Ceres.

REGISTERED HOLSTEINS—Golden West Herd. D. & H. Rowles, Modesto.

N. H. LOCKE CO., Lockeford, Cal.—Choice young Jersey bulls for sale.

PACKWOOD FARM HERD for Holsteins. W. F. Mitchell, Visalia, Cal.

HORSES AND MULES.

PURE-BRED Registered Percherons—A few choice young stallions two years old; also two, three and four-year-old fillies, majority in foal, for sale. Los Altos Stock Farm, Los Altos, Cal.

BEEF CATTLE.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Shorthorns. Villager and Avondale strain. Yearling bulls for sale.

HOPLAND STOCK FARM—Registered Short-horns. Prices on application. Hopland, Cal.

SIMON-NEWMAN CO., Breeders of registered Herefords. Newman, Cal.

TWENTY Shorthorn Bulls from Nebraska. G. A. Murphy, Perkins, Cal.

SWINE.

I HAVE ANOTHER CROP of seventy-five head of Big Type **Poland China Boars**, born in February, sired by **Iowa Wonder**, who is a son of **A Wonder, the Greatest Poland China Boar, Living or Dead. Iowa Wonder** is in the **1000 lbs. class.** One of his sons from one of my good registered sows should make you money. I will sell the best first. On account of being overstocked will sell them at $20 each while they last, but they will not last long at this price, so act quick if you want an extra good boar for little money. Geo. A. Smith, Corcoran, Cal.

BILLIKEN HERO of pedigreed O. I. C. Swine; weaned pigs of both sexes ready for immediate shipment; pairs and trios mated, not akin. All from big type stock of extra heavy bone. Immunized against hog cholera, crated and registered free. Write for descriptive circular and price list. C. B. Cunningham, Mills, Sacramento County California.

BLUE-RIBBON HERD DUROC-JERSEY HOCS—Bred Gilts a specialty. 15 bred now. 20 ready to breed. Sires and dams win all blue ribbons 1912, 1913, 1914 State fairs. 15 first, 13 seconds, 6 thirds, 7 fourths, 1 fifth. Will show 1915. For prices, write John P. Daggs, Modesto, Cal.

O. I. C. SWINE—Poor health is the reason for this offer. Will sell my herd of pure-bred O. I. C. Swine at prices that will turn them quick. Pigs two to eight months old, either sex. Write me for special prices. Every hog registered. G. H. DuBois, Box 13, San Martin, Cal.

BARGAINS—Big type Duroc-Jersey sows at great bargain. Will farrow in September by thoroughbred boar. Cholera immune. Make 100 per cent by buying one or more of these sows now. Western Hog and Land Syndicate, Inc., 919 Hearst Bldg., San Francisco.

BERKSHIRES—Headed by Sandmaster 2nd, junior champion Iowa State Fair. My females were winners at Iowa, Wisconsin and Minnesota State Fairs. Farm at San Mateo. Address W. M. Caruthers, 218 Hearst Bldg., San Francisco.

BARGAINS—Two fine Duroc-Jersey Boars for sale at half their value. "Jim" No. 4 from R. D. Beauty No. 122721. Also Chief No. 54 from Red Wonder 97295 One and two years old. Western Hog and Land Syndicate, 919 Hearst Bldg., San Francisco.

REGISTERED DUROC-JERSEY GILTS—14 to farrow in September. Also some Spring gilts. Foundation stock from Daggs and Ed Johnson herds. R. J. Ross, Modesto.

BLATCHFORD'S PIG MEAL weans easily and safely; no trouble; no milk. Write for free folder, "The Safety Route from Pighood to Porkage." Coulson Co., Petaluma.

RECISTERED BERKSHIRE SWINE—All ages, for sale. Grapewild Farm, Mayhews, Sacramento, Cal. A. B. Humphrey, Prop., P. O. Box P

REGISTERED PUREBRE) BERKSHIRE PIGS—(Weanlings) both sexes Reasonable prices. Write for full information. J. E. Hall, Sebastopol, Cal.

RECISTERED BERKSHIRES—Fine 3 to 6 months boars by Panama Lee, Gold Medal winner at 1914 State Fair. C. E. Barrows, Los Molinos, Cal.

DEL DAYO FARM—(Old Haggin Bottom Ranch)—Breeders of Registered Berkshires, both sexes for sale P. O. Box 1140, Sacramento, Cal.

POLAND CHINAS—Young stock; either sex. Write for pedigree. Reasonable prices. Edwd. A. Hall, Watsonville, Cal.

REGISTERED BERKSHIRES—Boar pigs, $10 each. Also aged boar, son of Double Premier. Extra fine. G. G. Wenger, Route 5, Modesto.

REGISTERED BERKSHIRES—Six choice bred gilts. Weanling boar pigs. $10 each. Sow pigs, $12. J. M. Bomberger, Modesto.

PLAINFIELD STOCK FARM—Registered Berkshires and Durocs.. Young stock for sale, both sexes. H. M. Bullard, Woodland, Cal.

REGISTERED BERKSHIRE SOWS and their weanlings. Quality, health and vigor. Boars, all ages. H. H. Wilson, Turlock, Cal.

REGISTERED DUROC-JERSEYS—Blue-ribbon stock. 8 gilts and one boar 9 months old. $20 each. H. E Tong, Route 2, Modesto.

GLENVIEW POLAND-CHINAS—Baby pigs from best families for sale. From $15 up. Chas. R. Hanna, R. 3, Riverside, Cal.

IMPERIAL STOCK FARM BERKSHIRES—Quality and price guaranteed to satisfy. R. J. Merrill & Son, Morgan Hill, Cal.

LINDEN STOCK FARM—Registered Berkshires, both sexes, all ages, best of breeding. Write for prices. Linden, Cal.

RECISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Duroc and Berkshire Swine. Weanlings for sale

BERKSHIRES—Pedigreed Boars ready for service. Also pedigreed weanlings. C. H. Thompson, Novato, Cal

RECISTERED POLAND-CHINA HOCS—Cholera Immune. W. P. Trewhitt, Hanford.

HOPLAND STOCK FARM—Registered Berkshires. Prices on application. Hopland, Cal.

POLAND-CHINAS—Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

FINE RECISTERED BERKSHIRE PIGS—Write or call Greenwood Ranch, R. D., Brentwood, Cal.

REGISTERED POLAND-CHINA HOCS—J. W. Wakefield, Acampo.

POLAND-CHINAS — Prize-winners. Satisfaction or money back. Geo. V. Beckman, Lodi, Cal.

REGISTERED DUROC-JERSEY SWINE—Las Paderas Ranch, El Cajon, Cal. M. S. Allen, Manager.

RECISTERED POLAND-CHINAS—Large and medium type. Prize-winners. W. A. Young, Lodi, Cal.

REGISTERED POLAND-CHINAS — Young stock for sale. Hewitt & Hewitt, Hardwick, Cal.

DUROCS—Weanlings and a few choice bred gilts. H. E. Boudier & Son, Napa, Cal.

KNOB HILL STOCK FARM—Registered Poland-China swine. A. M. Henry, Farmington.

REGISTERED POLAND-CHINAS and Duroc Jerseys T. H. Reckman, Lodi, Cal.

REGISTERED OUROC-JERSEYS from Eastern sows. S. S. Southworth, Napa, Cal.

POLAND-CHINAS—Prize-winners. Money-makers. W. Bernstein, Hanford, Cal.

RDAOAKS RANCH herd of registered Poland Chinas W. J. Hanna, Gilroy.

REGISTERED BERKSHIRES—Young stock for sale F. W. White, Elk Grove, Cal.

CHAS. COOOMAN, Breeder of high-class Berkshire Swine. Williams, Cal.

POLAND CHINA HOCS—Registered. R. J. Miller. Llewellyn Ranch, Lathrop.

RECISTERED POLAND-CHINA HOGS—J. A. Clark. R. 4, Lodi, Cal.

DUROCS—A few bred gilts, boars and gilts left. E C. Curtis, Napa.

RECISTERED O. I. C. SWINE—C. D. CONWAY, Lakeport, Cal.

POLAND-CHINA HOGS—C. A. Stowe, Stockton, Cal.

SHEEP.

FRANK MEACHAM, Petaluma, California.—Breeder Shropshire, Rambouillets, American Merinos, both sexes Take electric car at Santa Rosa or Petaluma for Live Oak.

SHROPSHIRE LAMB BUCKS—Yearlings and two-year-old rams for sale. J. R. Bloom, Dixon, Cal.

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

BISHOP BROS., SAN RAMON, CAL. Breeders and Importers, Shropshires.

MISCELLANEOUS.

ALFALFA SEED—If you are going to be in the market for Alfalfa Seed, get into communication with us at once. Will soon be harvesting the new crop. Booking orders now. Write or wire. V. A. Peterson Alfalfa Seed Co., Arbuckle, Calif.

FOR SALE—20 head grade Ayrshire cows bred to registered bull of best quality. Wyndham Dairy, Redding, Cal.

BREEDER of Registered Holsteins and Poland China Swine. E. E. Freeman, R. 5, Modesto, Cal.

TO SHEEPMEN—
We offer the usual number (about 100) choice
Shropshire Yearling Bucks
for sale. They are equal to the best and the price is reasonable. Call or write to R. E. DRESSER, YOLO, CAL., or EDGAR J. DE PUE, 818 Merchants' Ex., S. F.



Calf Profits
Are you getting them? Calf profits mean more to you now than ever before.
Blatchford's Calf Meal
has been known since the year 1880 as the complete milk substitute. Costs less than half as much as milk — prevents scouring — promotes early maturity. Sold by dealers or direct from the makers.
Write for New Data See actual figures showing you how to increase your calf profits.
F. F. SMITH & CO. - Sacramento, Cal.

The American Sheep Breeder predicts a great demand for Merino wool during the next five years, in consequence of a possible shortage in the world's fine wool clip.

Ten thousand head of sheep were recently shipped to Stockton by a breeder at Klamath Falls, Ore., to be put on stubble lands during the late summer and winter months.

The entire herd of Herefords owned by J. W. VanNatta have been purchased by J. Crouch & Son of Lafayette, Ind., well known breeders of Percheron and Belgian horses.

Sonoma and Mendocino county sheep growers met at Cloverdale on August 24 with Dr. Chas. Keane, State Veterinarian, for the purpose of discussing means of eradicating the scabbies which is seriously infesting their flocks.

HORSES AND SWINE.

At least 300,000 horses will be taken out of this country for war purposes by England, France, and Germany.

Five carloads of hogs were recently shipped to San Francisco by Hammond & Ryan, live stock buyers of Lemoore.

A car of mules were recently

(Continued on page 211)

COMING SALES.

In a letter to this paper from J. W. McAlister, Jr., sales manager of the California Holstein Breeders' consignment sale to be held at Hanford October 14 and 15, he says: "Among the stock to be sold that is of particular interest is the entire herd of C. C. Lester of Gilroy, who will offer 60 head of exceptionally fine animals and perhaps the finest bunch that has ever been consigned to an auction sale in the United States. There will be Wisconsin Daisy of Sleepy Hollow who made 29.91 pounds of butter from 619.4 pounds of milk in seven days at the age of four years and six months. She made over 102 pounds of milk in 24 hours the last day she was on test and would have made over 32 pounds of butter had her test not been unfortunately discontinued by mistake. She is sired by Anselmo, who is one of the greatest bulls of the breed considering his opportunity, his daughters averaging 21.69 pounds butter for seven days, which is only equaled by three or four other sires. Two other daughters of this bull will be sold, including Colantha of Sleepy Hollow 2nd, who made 24.42 pounds of butter as a senior three-year-old, and Cantate Pietertje of Sleepy Hollow who made 26.47 pounds as a junior four-year old. Two daughters out of this 29.90 four-year-old, a daughter of the 24.42 pound three-year-old and a daughter of a 24.45 pounds daughter of Anselmo, will make a total of seven head of this family to be sold. Mercedes Korndyke De Kol Johanna who has a record of 25.50 pounds, Molly De Kol Glasgow who made 29.58 pounds as a junior four-year-old and Vogelschem of Sleepy Hollow with 18.56 pounds will also be sold. Among the heifers are 15 granddaughters of Colantha Johanna Lad, the sire of large milk producers and sired by his best bred son, Colantha Sir Pontiac Aaggie. His dam is a high record daughter of Aaggie Cornucopia Pauline, the world's former champion butter cow with a record of 34 pounds as a four-year-old. Many of these heifers are out of cows with records of from 22 to over 30 pounds of butter in seven days and they will be in calf to two of the best bred bulls in the United States.

During the past week T. J. Gilkerson of Lemoore paid this office a visit in connection with the double dispersion sale on the Kings County Fair Grounds at Hanford on September 15, which he is holding in connection with Dr. Weldon of Sacramento. He states that he expects this to be a great sale as they have about 100 head of excellent cattle to offer and that he considers his bull, Julianna De Kol King Segis, the greatest bull that has ever been offered at public auction on the Pacific Coast. This bull combines great type with his breeding, having won first prize as a senior yearling at the State Fair in 1914, and with his breeding should prove a great transmitter, being a half brother on his dam's side to Juliana King of Riverside, who has sired many of the high annual record cows in the Morris herd. He states that he now has a tester doing official work at his farm near Stratford, and that 15 half sisters to the $1000 heifer of last year's consignment sale will be sold. About 30 of his females are with calf to the herd sire, Julianna De Kol King Segis. Mr. Gilkerson has devoted ten years to the developing of a high class herd, and he states that his reason for offering them at public auction at this time is due to the fact that conditions make it advisable for him to devote his energies to other interests and that rather than allow his herd to be handled under others' supervision, he prefers to dispose of them entirely and give other breeders the opportunity of securing this blood where they will be developed and aid in developing the breed. These, with the addition of the Heenan & Weldon herd, will make a very desirable selection for old and young breeders alike, and will doubtless be appreciated by the admirers of the "Black and White" in this State.



JULIANA DE KOL KING SEGIS, Herd Sire Of Stratford Dairy Farm To Be Sold At the Double Dispersion Sale, Hanford, September 15.

There is a Difference

BETWEEN THE

Ideal Green Feed Silo

AND

OTHER SILOS



IT DOESN'T TAKE AN EXPERT to tell the difference between an **Ideal Green Feed Silo** and some others.

ON THE CONTRARY, it is an easy matter if the prospective purchaser will remember that a silo to be of any value whatever must be "air and water-tight" and capable of producing good ensilage from every pound of good feed put into it.

IF HE WILL THEN TAKE FIVE MINUTES to compare:

The detail of construction,
The quality of material and workmanship,
The contact of the doors with the door frame,
The kind and size of hoops and lugs used,
The quality of the paint for the inside,
The type of roof and whether or not it is fitted with a galvanized ventilator,
What provision, if any, is made for keeping the silo round and preventing its collapsing,
In fact, everything that enters into the design and construction of a silo that will make it a thoroughly practical piece of equipment,

He will then see the difference.

THE MAN WHO TAKES even the first step indicated in seeing for himself the difference between the **Ideal Green Feed Silo** and others does not put his money into any other, one time in a thousand.

THE COMPARATIVELY FEW BUYERS of other silos are those who merely read printed claims, or listen to the argument of some self-styled "advisor" who is probably working for a commission only and whose sole purpose is primarily to sell a bill of lumber.

THE WISE BUYER OF A SILO today does see the difference when buying his first silo, while the unwise or careless one usually finds that his presumed saving in first cost actually means a loss to him in spoiled feed and **represents the difference between success and failure in the use of a silo.**

OUR PURPOSE in selling a silo is to develop the dairy and stock raising industry on a more substantial basis than heretofore, and in order to do this we must supply a silo that is a thoroughly practical piece of equipment.

THAT IS THE REASON WHY four buyers out of five are buying **Ideal Green Feed Silos** and why the use of the **Ideal Green Feed Silo** will, before long, be as nearly universal on the Pacific Coast ranch as it is in the Eastern States and Canada.

SEND FOR CATALOG B.

De Laval Dairy Supply Co.

SAN FRANCISCO Everything for the Dairy SEATTLE

AUCTION SALE



Above cow made a World's Record. She is a sister to our Gertie's Son, whose Sire, Dam and two Sisters were all of Them World's Champions.

Dispersal sale of

The Royal Jersey Herd

At the HANFORD FAIR GROUNDS on SEPTEMBER 16, 1915, at 10 A. M.

Heifers Sired by Gertie's Son

66463

Register of Merit Cows in calf to Gertie's Son

Write for Catalogue to

R. L. Waltz, Owner

HANFORD, CALIF.

Auctioneers

T. J. Gilkerson and Col. Ben A. Rhoades

Ask Your Dealer For

El Dorado Cocoanut Oil Cake

for Milk Cows and Chickens and Young Pigs and Hogs. Cheapest food in the market today. If your dealer doesn't carry it, address

EL DORADO OIL WORKS,

149 California Street, San Francisco.

Veterinary Queries and Replies.

[Answered by Dr. H. B. W Intringham, Petaluma, Cal.]

MAY BE TUBERCULOSIS.

To the Editor: I have a cow with a big, spongy lump on each side of the jaw; cannot eat well, and is getting poor. Kindly let me know what you think should be done, and if it is contagious.—C. G.,Fairmead.

[Have this cow tested for tuberculosis. If she does not react it will be time enough to treat for some other trouble.]

CAKED BAG.

To the Editor: My cow has a caked bag after calving. She is 9 years old and calf is 12 days old. The front quarter on left side remains hard down into the teat and refuses to move. No lumps, no blood, does not seem sore. Calf is still sucking. I bathe the bag with warm water.. She is a very heavy milker, giving 12 quarts of milk daily at time when dried.—Mrs. C. D., Grass Valley.

[Rub this quarter well twice a day with hot camphorated oil. Give internally the following:—red iodide or mercury, 90 grains, potassium iodide 60 grains, simple syrup, one pt. Dose: one tablespoonful twice a day.]

SPAYING SCRUBS.

To the Editor: Will you please tell me what you know about spaying cattle? Does it set them back much? When should it be done, as calves or yearlings? Isn't it a common practice in the East? I have been told that it stunted a calf to spay it, but hardly understood the reason. It seems to me with a bunch of mixed cattle, if one spays his scrubs, he will be able to breed up much faster. Any information you may have will be gratefully received. —G. W. M., Dixon.

[You most certainly have the right idea about building up by spaying the scrubs. Instead of making scrubs of these animals, it has just the opposite effect and they make much better gains and better beef. It has been a common practice until recent years, but the high price of beef has stopped the practice, as every cow that would bring a calf has been in great demand. The best time to do this is when the weather is cool and the flies are scarce. When properly done, all effects of the operation will disappear within two weeks. The best age to spay is at one year. The use of a first-class bull and selection will, however, produce remarkable results in the course of a few years if carefully carried out.]

COW TROUBLES.

To the Editor: My cows are very loose in their bowels—some worse than others. They have alfalfa hay to eat, fed from the stack, plenty of clean water and shade from the hot sun. They eat well and have not lost any on the flow of milk, but I do not think it good for them to be so very loose so long; it has been nearly a month. Is cotton-seed meal good for them? Does it increase the milk flow, and is it beneficial in any other way? When they are rough instead of smooth, the hair looking like it had been brushed the wrong way, should they have a tonic or some different feed?—Mrs. F. J. C.—Dos Palos.

[You are probably feeding too much alfalfa and I would advise that you provide enough grain to make up one-third of their ration.

Cotton-seed meal is a concentrate, the same as grain or millfeed; it helps to increase milk flow and butter fat content by supplying the needed elements in an easily assimilable form. It should not be fed, however, except in small quantities and very gradually.

When they look rough it would be better to feed more concentrates rather than to resort to drugs.]

COWS DOING POORLY.

To the Editor: I have two Holstein cows that act very odd. They eat and drink very little and are very poor; lie down most all day. When they get up they are stiff on the hind part of their body. They give hardly any milk, dry up, and drag their hind feet when walking. If they happen to get to a little higher spot they almost fall. Please advise me what to do for them.—F. P., Orland.

[Give these cows each two pounds of epsom salts dissolved in just enough water to make a solution. Follow this up by giving 2 drachms of potassium iodide in water three times a day on an empty stomach.]

ANGORA GOATS.

To the Editor: Can you give information regarding Angora goats; viz., will they do well pasturing on logged-off land, where there is a second growth of fir, spruce, etc., from three inches to twelve inches in diameter, undergrowth of brush, wild blackberry and currant bushes, also weeds, and some places good growth of grass, rainfall averaging 17 inches, falling between September 1 and April 1, with an occasional shower balance of year, and occasionally small amount of snow? What is the average price of the hair and pounds per head, also height of fence required to keep them in.—M. W. R., Seattle, Wash.

[Answered by F. W. Woll, University Farm, Davis, Cal.]

[Angora goats are often used for clearing land and keeping fire breaks and rights-of-way, etc., free from underbrush. They would prove valuable under conditions similar to those stated in the letter. The price of mohair has increased greatly of late years. In 1908 it ranged from 22c to 25c per pound, while in 1913 it averaged 34c per pound. The average weight of the fleece of American Angoras is about two and a half pounds, according to Farmers' Bulletin 573, "The Angora Goat." This publication can very likely be obtained on application to the Secretary of Agriculture, Washington, D. C. It gives excellent brief discussions of Angoras and of questions relating to the management of the flock.]

WHEN COWS SHOULD FRESHEN.

To the Edltor: About a half-dozen of my cows came fresh last March and April. It is best to breed them now, or wait until December, which will bring them fresh again, a year from next fall, when butterfat is on the rise in price? It seems a long time to let cows wait, and I wonder if it will not make the cows dry for too long a perlod to be profitable. If they are bred now, however, they will come fresh in the summer, when butterfat is low and the heat lowers their production.—C. L.,Waukena.

[Answered by J. M. Bomberger, Modesto.]

[I think you would find it more profitable to change the freshening time of your cows more gradually, having them come fresh a month or two later each year. By making the change all at once, you may have trouble in getting the cows with calf after the long wait, besides having them dry, or nearly so, for a long time.]



BEWARE OF POORLY MADE HORSE COLLARS



More shoulders are being ruined by poorly-constructed collars than by the work the animals are doing.

W. DAVIS & SONS'

FELTFACE COLLARS are guaranteed to prevent sore shoulders.

Look for the felt at the edge of the stitching.

Made to sell as follows:

FELTFACE, medium draft, $5.00
FELTFACE, heavy draft .. 6.00

If your dealer does not have them, we will tell you where they are to be had, or send direct if no dealer is within reach.

Our CUSHION COLLAR, a canvas and leather Boston Team Collar, is now to be had for $3.00.

ANOTHER GOOD SORE-SHOULDER PREVENTER

A selling agent (dealer) in nearly every town. If none in your town, Write Us. Catalogue on application.

W. DAVIS & SONS, 2040 Howard St., San Francisco, Cal.
California's Largest Manufacturers of Harness, Collars, Saddles.

Hillcrest Stock Farm

THORNTON S. GLIDE, Prop., Davis, Cal.

Breeders of

Short Horn Cattle
Shropshire and Merino Sheep

ATTENTION, SHEEPMEN.

My pure-bred, range-raised yearling Shropshire and Merino rams are now out of the mountains and ready for inspection at my place.

Shropshires sired by rams imported by me from England in 1911.

From One to One Hundred Hogs.

To the Editor: I contemplate engaging in the hog-raising business as a specialty in Northwestern California or Oregon. I would have ten or fifteen acres moist bottom land on which to raise clover or alfalfa, besides roots and kale, etc. Would either cut green feed for the hogs or else pasture them a short time in different fields so as not to cause too much injury? Would buy millfeeds such as middlings, bran, or rolled barley to feed as a warm slop. Have had excellent results feeding one scrub hog at a time, as above, with the addition of a few table scraps, feeding slop three times a day and green stuff between times; but is the plan practical on a larger scale as a specialty? Have averaged 70 to 100 per cent profit on retail cost of purchased feed. Could I expect to do as well with, say, 100 head of all sizes, and is that sufficient returns to cover all expenses and leave a profit? I expect to keep a purebred boar and to start with grade sows. Can you tell me what millfeeds have been found best? Would also keep two or three Holstein cows so as to have some skim milk. Can you recommend a good book on breeding, in simple language, so that I can breed up and maintain good market hogs? —B. B., Dyerville.

[Answered by Chas. Goodman, Williams.]

[If you have realized a profit of from 70 to 100 per cent on the retail price of feed, it seems that you are not slow as an amateur feeder. This would make a veteran sit up and take notice. However, you cannot expect as good results in feeding 100 head as one.

Your method of feeding is excellent, and would be hard to improve on. Rolled barley, middlings, and bran is as good millfeed as one could desire. But if the hogs were running on alfalfa, we would cut out the bran, as alfalfa and bran are both very high in protein, which would doubtless throw your ration out of balance.

We would not start with a purebred boar and grade sows. We would have at least one or two sows of the same breed as the boar and gradually work out of the grades. It will pay in the end.

The best book we have seen written in plain English is "Forty Years' Experience of a Practical Hog Man," by A. J. Lonejoy of Roscoe, Illinois. You can obtain this book only from the Frost Publishing Co., Dearborn St., Chicago. You will also receive a year's subscription to the Berkshire World for the dollar. The Rural Press will shortly publish a swine book that will doubtless meet the requirements of Pacific Coast people better than anything yet published.]

FRUIT FOR HOGS.

To the Editor: At present prices for grains considered for hog feeding, what is the value of fresh peaches, dried peaches, and raisins for hogs? Can you give us the amount of proteins and other animal foods elements in each?—R. E. H., San Francisco, Cal.

[Answered by Prof. F. W. Woll, University Farm, Davis, Cal.]

[Fresh peaches contain 15 to 20 per cent of dry matter (80 to 85 per cent of water), and dried peaches about 25 per cent of water, 2.1 per cent digestible protein, and 68.1 per cent of digestible carbohydrates and fat. The corresponding figures for raisins are 19 per cent water, 3.4 per cent digestible protein, and 65.2 per cent digestible carbohydrates and fat. On the basis of the amounts of digestible components in different fruits and in concentrates, we may assume, with Professor Jaffa, that 100 pounds of dry peaches have a similar feeding value as a 85 or 90 pounds of barley, that the feeding value of fresh peaches is equivalent to one-third this amount, and that raisins and barley may be considered of about similar value, ton for ton, for feeding farm animals.

Barley is worth $26 per ton at the present time, and wheat middlings about $36, at which prices the latter feed is more or less of a luxury and should be used in small amounts only, if at all, for the sake of introducing variety in the rations fed. The approximate cash value of peaches and raisins for hog feeding may be readily determined from the relative feeding values given above.]

TOMATOES FOR HOGS.

To the Editor: Is there any food value in tomatoes? If any, how much? Do they make good hog feed? —C. E., Elk Grove.

[Answered by Prof. F. W. Woll, University Farm, Davis, Cal.]

[Tomatoes are doubtless fed occasally to hogs, but I know of no case where they have been fed in large amounts or for a considerable period of time. They contain about 95 per cent of water, or only one-half as much solid materials as skim milk or buttermilk. The dry matter of tomatoes consists largely of different kinds of sugar, with some protein substances, organic acids (mainly citric acid), and mineral matter. On account of the great dilution in which these feed materials occur in tomatoes, and their relatively high acidity content of these, they should only be fed sparingly, along with dry roughage and grain. Fed under such conditions, there is every reason to believe that they will prove valuable for feeding hogs and will add to the palatability and nutritive effects of the rations.]

5---Registered Holstein Cows

Choicest breeding
3 years old
Tuberculin Tested
Price $450 each
Come and see them.
M. HOLDRIDGE,
Modesto, California

Oak Grove BERKSHIRES

CHOLERA IMMUNE
Our herd is Cholera Immune, the only Immune Berkshire herd in the State.
Five herd boars in use and they are second to none on the coast. Our sows are of equal merit.
We have at present some 300 Berkshires and we know that we can supply what you want.
Write Us or Call.
OAK GROVE DAIRY FARM
H. G. ARMSTRONG, Prop.
Woodland, Cal.

Swineland

TAMWORTHS, DUROC JERSEYS
We have for sale. fine young stock, both sexes; also boars ready for service and bred sows. No better stock in this State. We have recently. moved our big breeding establishment from Yuba City to Woodland.
Write or call and see us.
SWINELAND FARM.
W. O. PEARSON, Prop. WOODLAND, CAL.

THE TWO!

A. W. MORRIS & SONS, Woodland, Cal.

IS IT INDIVIDUALITY
You are Looking for?
Then Attend the Combination Sale.
M'ALISTER & SON, Chino, Cal.

175 HIGH CLASS REGISTERED HOLSTEIN FRIESIAN CATTLE
Tuberculin Tested.
State Fair Grounds, Sacramento, California,
October 6th and 7th

Never before in any sale in the world have such wonderful individuals of size, growth and conformation been offered to the public. Look as this list of offerings strictly from a standpoint of individuality!

KING SEGIS PONTIAC EMPEROR—not alone the greatest bred bull but one of the greatest individuals ever offered at public sale, having three times won 1st prize at the State Fair, including two Grand Championships; also ten of his best daughters, one of whom has won first prize for three consecutive years.

LORENA KORNDYKE—one of the World's greatest show bulls, having won for four consecutive years at the State Fair, including two Grand Championships; also ten of his daughters, several of whom have been prize-winners in the show ring.

Twenty daughters of **KING PONTIAC TOPSY,** one of the best sons of the King of the Pontiacs, that average in weight at 12 months of age, 895 lbs. and are superb individuals.

Five daughters of **DE KOL HENGERVELD BURKE**—a bull of wonderful constitution and conformation.

Four daughters of **KING KASTELEINTJE SEGIS,** whose six nearest sires and dams have all been first prize winners.

Other cows and helfers of individuality, size and conformation never equaled in any other sale anywhere.

BRED TO BULLS OF SURPASSING EXCELLENCE!

Including sons of **TILLY ALCARTRA, RIVERSIDE SADIE DE KOL BURKE, ARALIA DE KOL,** cows with not only World's Records, but of unsurpassed individuality, whose sons have inherited their strong qualities. Also a son of the greatest show cow the West has ever known, **DE KOL OF VALLEY MEAD,** and one of the best sons of the King of the Pontiacs and a prize-winner at the State Fair.

BULLS GOOD ENOUGH TO BREED TO THESE FEMALES! A strong statement but a true one! Included in the list of bulls are not only the great sire **KING SEGIS PONTIAC EMPEROR** and **LORENA KORNDYKE,** but also a son of De Kol of Valley Mead 2nd, a world's record cow and a first-prize winner. A son of the 1000 lb. butter cow, Miss Blaney, and a show bull in every respect. A son of a 31-lb. 4-year-old and other sons of great yearly record cows, sired by sons of World's Champions. And these are not all! About 20 more nice ones.

COL. BEN A. RHOADES, Los Angeles, Calif. Auctioneer.

The California Holstein Breeders Second Consignment Sale
175 REGISTERED HOLSTEINS 175
Tuberculin Tested
HANFORD, CALIF.
October 14th and 15th

DO YOU WANT PROOF? HERE IT IS.

About 25 A. R. O. cows with records as high as 29.90 lbs., made as a 4-year-old, including a cow with a 3-year-old record of 24.45 lbs. and others over 20 lbs.

About 30 daughters of great record cows, including a daughter of a 30-lb. cow, 2 daughters of the cow with the 29-lb. 4-year-old record. Daughters of the cow with the 24-lb. 3-year-old, daughter of a 24-lb. 4-year-old, 3 daughters of a 22.50 lb. cow and others from large record dams.

DAUGHTERS AND GRANDDAUGHTERS OF GREAT SIRES!—Including 15 daughters of **COLANTHA SIR PONTIAC AAGGIE,** the greatest bred son of **COLANTHA JOHANNA LAD,** nearly all from large record cows with records as high as 30 lbs. and daughters and granddaughters of such great sires as King of the Pontiacs, Pontiac Hengerveld Parthenia, Homestead Girl De Kol Sarcastic Lad, Sarcastic Lad, Juliana King of Riverside and others of equal note.

BRED TO SONS AND MOTHERS OF WORLD'S CHAMPIONS!

What will the calves of such great cows and sired by such bulls as Tilly Alcartha Son, Arcady Pontiac Wayne Hengerveld, Judge Hengerveld De Kol, both brothers of World's Champions, Prince Juliana De Kol Walker, son of former world's record heifer, Dechter Spofford Korndyke Lad, son of a 36-lb. cow, and King Segis Pontiac Emperor 3rd, out of a cow with a butter record of 870 lbs., be worth? Can you ever estimate their value?

A GREAT LOT OF BULLS! Including King Segis Pontiac Emperor 3rd, Sir Holland Gant, one of the greatest show bulls in the West. A son of a cow with a record of 772 lbs. butter in a year, a son of King Pontiac Topsy, out of a 28-lb. daughter of the $25,000 sire Johanna McKinley Segis, a son of a 28-lb. 4-year-old, sired by King Segis Pontiac Emperor 3rd, and others worthy to head your herd.

JAMES W. McALISTER, JR., Chino, Cal., Sales Manager. **COL. BEN A. RHOADES, Los Angeles, Cal. Auctioneer.**

TERMS: $500 and under, cash; over $500, one-third cash, balance in 3, 6 and 9 months with bankable note and 8% interest. 3% discount allowed for cash on time sums. Buyers from a distance must bring satisfactory bank references.

NOTE—Foot and mouth disease has again broken out in the East and Middle West. Your only opportunity to secure high-class Holsteins at your own price for many months will be at these two sales.

Catalogs ready about Sept. 10.. Write for one.

F. L. MORRIS, Woodland, Calif. Sales Managers. JAMES W. McALISTER, JR., Chino, Calif.

Ration Balanced for Egg Production.

[Written for Pacific Rural Press by Geo. H. Croley, President Federated Poultry Ass'n. of California.]

In the preceding issue we stated that in order to make laying hens pay a profit, it is necesary to feed them a ration balanced for egg production; we mentioned that at the Missouri Experimental Poultry Farm, it was discovered that one pound of digestible protein would produce 16⅔ whites and one pound of carbohydrates would produce 3⅓ yolks. We have carefully tabulated the digestible value of a number of California feeds that may be obtained in practically all parts of the State and give below a ration balanced for egg production on the basis of the Missouri scale.

			Whites	Yolks
100 lbs.	Mixed Wheat	make	147	237
70 "	Whole Barley	"	98	161
50 "	Whole Oats	"	73	98
50 "	Cracked Corn	"	65	111
100 "	Egyptian Corn	"	77	154
50 "	Kaffir Corn	"	43	79
50 "	Milo Maize	"	41	79
25 "	Buckwheat	"	34	45
5 "	Sunflower Seed	"	12	11
500 lbs.	Assorted Grain	make	590	975
150 lbs.	Wheat Bran	make	306	239
100 "	Wheat Shorts	"	217	167
50 "	Corn Meal	"	58	120
125 "	Oat Middlings	"	273	301
25 "	Dried Green Bone	"	125	9
50 "	Meat Scrap	"	460	46
25 "	Shell Flour or Shell Meal	"	...	...
10 "	Granulated Charcoal	"	...	...
5 "	Fine Salt	"	...	...
540 lbs.	Mash	make	1439	882
250 lbs.	Green Cabbage	"	96	51
250 lbs.	Green Rape	"	85	79
250 "	Green Mixed Grasses and Clovers	"	103	129
500 "	Fresh Growing Corn Stalks	"	99	211
500 "	Fresh Green Alfalfa (or 150 lbs. cut alfalfa hay or meal)	"	296	215
250 "	Oat Hay Cut in the Milk	"	197	337
250 "	Mangels	"	41	53
250 "	Pumpkins	"	42	55
2500 lbs.	Green Stuffs, containing about 85% water, equals about 500 lbs. dry feed		959	1130
	Summary.			
500 lbs.	Assorted Grains	make	590	975
540 "	Mash	"	1439	882
2500 "	Assorted Green Stuff, etc	"	959	1130
			2988	2987

In regard to the green stuff, etc., it is not necessary to feed this assortment constantly, but the list is grouped so that a good general idea of the feed values may be obtained. In the winter and early spring, cabbage, rape, and mixed grasses, etc., could be used; in summer, growing corn and alfalfa; and in the fall, cut oat hay with mangels and pumpkins or any assortment may be used that does not seriously throw the ration out of balance.

If any readers wish to ask further information in regard to this matter we will be glad to answer through these columns.

Hatch Chicks This Fall.

[Written for Pacific Rural Press by Geo. H. Croley.]

Apparently a very large number of California poultry keepers consider the fall hatching of chicks as a recently devised experiment that may or may not be practical. As a means of dispelling this false notion, we publish the following letter from T. R. Jacobs, one of the earliest of pioneers in poultry culture in California. Mr. Jacobs says: "This is an age of advancement, and the old fogyism of the past must be cast aside, to-wit: spring is the natural time for the hatching and rearing of chicks. When you create a new hatching period, you create a new laying period; the laws of nature remain the same and are not affected. It is only a matter of change in time. In drawing a comparison of fall and spring hatching: If a person will stop to think, he will very readily see the advantages of fall hatching. The fall hatched chick has the benefit of climatic conditions with cool weather which is inducive to scratch and work, developing muscle, making a fast growth, and larger frame. They have the benefit of the first rains that moisten the ground, bringing forth the grubs and worms which are necessary for their growth and development. Fall hatches give stronger fertility and less mortality. The male bird kept apart till wanted to use for fall eggs will be just as strong and active (if not more so) than in the spring. Having constructed the first incubator that was built in California 45 years ago, and with it hatching chicks every day in the week at the County Fair in Sonoma County held in September, I can enthusiastically endorse the fall hatching of chicks. I hatched 94 per cent of the fertile eggs and I never saw a stronger and more robust chick than those hatched at that time. Brother Poultrymen, try fall hatching and you will be convinced. Brother Croley, keep up the good work."

J. F. Ricketts of Fair Oaks thinks from his experience, that the following is a satisfactory prevention of crown gall: At planting the roots are soaked in a puddle containing mud, wood ashes, and blue stone. Trees planted several years ago after such treatment are still sound while others around them are affected.

Poultry Breeder's Directory

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

BABY CHICKS—Fall is here and now you should order the chicks you want for eating next Christmas and for Spring layers. Strong, healthy chicks that get there right. September prices: Per hundred: White Leghorns, $11; Brown Leghorns, $12; Black Minoreas, Rhode Island Reds and Barred Rocks, $13. Also Flemish Giant Rabbits. Write for prices. Campbell Poultry Ranch, Campbell, Cal.

WE ARE BOOKING ORDERS for Fall and Spring hatching now. White and Brown Leghorns; Barred and White Rocks; Black Minorcas; Rhode Island Reds; Buff Orpingtons and Anconas. No deposit required with order until 30 days previous to delivery of chicks. Large orders a specialty. Santa Clara Valley Hatchery, R. 6, San Jose, Cal.

WHITE PLUMAGE POULTRY FARM and Hatchery. Sells Fall and Wioter chicks. White Leghorns, Barred Rocks and Rhode Island Reds. Circular free. H. A. Schlotthauer, Exeter, Cal.

BARRED PLYMOUTH ROCKS—"The kind that Win and Lay." Choice stock for sale. Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

CROLEY'S EVERLAY EGG MASH AND CROLEY'S SCRATCH FEED form a perfect balanced ration. Ask your dealer for them.

TRAPNESTED LEGHORNS—White and Buff Stock. Eggs, chickens. Arthur B. Schroeder, Box 179E, Mountain View, Cal.

ORPINGTONS, BUFF AND WHITE, Black Minorcas and Carneux pigeons. Mrs. Susan Swaysgood, Pomona, Cal.

HARES AND RABBITS.

LEADING RABBITRY IN AMERICA—Flemish Giants and New Zealands Cut your living expenses Catalogue free. Empire Rabbitry, Empire, Cal.

BOSWORTH'S Imperial Red New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville, Cal.

BELGIAN-FLEMISH young does for sale reasonable. Loma Vista Ranch, Box 623, Livermore, Cal.

BELGIAN HARES—Young stock for sale. Hurd Bros. St. Helene, Cal.

TURKEYS, DUCKS AND GEESE.

HART'S BRONZE TURKEYS—Limited number of last season's breeders for sale at reduced prices. Olbert M. Hart, Clemeots, Cal. (Successor to Ed Hart.)

CHICKENS, DUCKS, GEESE, GUINEAS, PEA FOWL. Address Wm. A. French, 545 W. Park St., Stockton, Cal.

BEES.

BEEKEEPING INSTRUCTION BOOK FREE for beekeepers names in your locality. Spencer Apiaries, Ventura, Cal.

PIGEONS.

WHILE THEY LAST for $3 per dozen. Plymouth Rock Homer Pigeons. Very fine. Geo. M. Bosworth, Geyserville, Cal.

Classified Advertisements.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

WANTED.

WANTED—About seventy-five young men and women to enter the WESTERN NORMAL on August 30th, to prepare for teaching. Western Normal graduates secure and hold good positions. We assist graduates to secure good positions and promotion. We save you time and money. For information address, WESTERN NORMAL, J. R. HUMPHREYS, Principal, Stockton, Cal., Box 704.

RANCH MANAGER—With many years' experience in the management of general and diversified farming on a large scale, desires similar position with some progressive landowner or corporation. Is up-to-date in dairying, manufacturing dairy products, stock raising and deciduous fruit-growing Box 230, Pacific Rural Press.

WANTED STEADY POSITION on large farm by young man, graduate from best Agricultural College in Europe. 3½ years California experience. Handy with horses and farm machinery, including gas engines. General farming and orchardist. Best of references. Address E. Seemann, Belmont, San Mateo Co., Cal.

WANTED: POSITION BY SUPERINTENDENT—Large experience orchards, vines, alfalfa. Understands handling of all fruits, green and dried. Also development and subdivision work. Best of references. Address, Wm. Tardif, 120 Sarah St., Fresno, Cal.

WANTED TO LEASE with option of purchase, 160 to 320 acres good Sacramento Valley or foothill land. Good buildings, some good alfalfa, remainder grain, pasture. Full particulars first letter. Box 160, Rural Press.

EXPERIENCED SWISS DAIRYMAN with family wishes to take a small dairy on shares. Box 368, Rural Press.

GOOD RELIABLE MAN wants position on farm. Address A. K., 1951A Webster St., San Francisco.

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SECOND HAND WATER PIPE and screw casing. New threads and couplings dipped in hot asphaltum. All guaranteed. Send us your inquiry. SHECTER PIPE WORKS, 306-8 Howard St., San Francisco.

USE BROOMS MADE BY THE BLIND—All qualities guaranteed. Prices from 25c to 60c. Send for our price list. Help our blind workers to be self-supporting. San Francisco Association for the Blind, 1526 California St., San Francisco, Cal.

"SMITHS' PAYS THE FREIGHT."—To reduce the high cost of living send for our Wholesale to Consumer Catalog. SMITHS' CASH STORE, 106 Clay St., San Francisco.

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GOOD NEWS FOR YOU.

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"Booklet, circulars, FREE. Joseph Clark, Sacramento."

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CALIFORNIA LAND—Money-making little farms, high class, low priced properties in all counties. Call or write the oldest land office in California; we will save you 25 to 50 per cent. C. M. WOOSTER CO., 303 Phelan Building, S. F. Catalogue free.

100 A. BOTTOM LAND in Rogue River Valley, Oregon, ½ mile from railroad station Tolo. 30 A. pears 3 and 4 years old, 50 A. elfalfa. Good house, barn, stock, improvements. F. R. Noyes, 3023 Summit St., Oakland, Cal.

WANTED to rent fully equipped orchard, alfalfa, hog or dairy ranch on share proposition, by responsible and thoroughly experienced man. Can furnish best of references. Box 210, Pacific Rural Press.

FOR SALE—Beautiful country house near Capitola. Two and a half acres chiefly in cherries. Seven-roomed house and outbuildings. Address Owner, P. J. Archibald, Soquel, Cal.

FOR SALE—Small dairy ranch; alfalfa, running water, cows, hogs. Reasonable terms. Sacramento Valley. Slater, owner, Hobart Building, San Francisco.

WANTED GOOD FARM, or unimproved land from owner. H. L. Downing, 145 Palace Bldg., Minneapolis, Minn.

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BURBANK'S SPINELESS CACTUS—Hardiest varieties Melrose and Special. Strong mature slabs, $8.50 per 100; $50 per 1000. Lahraoza Ranch, Athlone, Merced Co., Cal.

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[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

CAN THE MOLT BE CONTROLLED?

One of our subscribers writes to ask where he can get a book that will tell him how he can control the molt, and time of hatching, etc., saying he has mastered the A B C of poultry culture himself, but needs book learning along these points.

Now, I am not egotistic enough to think that I know it all, but do think that in "California Poultry Practice" can be found more "real" information regarding the molt in California than in any of the eastern books, some of which are written by men who would not know chicken from rabbit, even when it's put on their dinner plate.

Natural Molt.—A hen may go through a natural molt, or say a flock, when they are left strictly alone to forage their own living. They commence from August to December and get ready to lay about March. Any interference in the way of serving rations to help them along with the quick disposal of the old crop of feathers and putting on the new, may be termed "controlling the molt."

The fact that changing the food, moving chickens around, and a dozen other little things will sometimes start the molt is proof that nobody can lay claim to positive knowledge, or give positive information. Keeping hens on light rations of narrow ratio will start the molt, then it is up to the feeder to control the time it may last; he can feed so that the molt will be almost natural, or he can hurry matters up to suit himself, if his hens are healthy.

All poultrymen agree that conditions in California are quite different, owing perhaps to climatic conditions, than in the East. This being a fact, what good will it do any Californian to crowd himself with eastern lore about the molt?

Now, any method of feeding, caring for, and assisting this natural molt both in shortening the period and making it come at the best season for the fowls and their owner has been termed "controlling the molt." The late James Shackleton was the first man I know anything about who started the method of "forcing the molt." So we see that really everybody who feeds their poultry and gives them good care are controlling the molt. And still such a little thing will start it, and other things prolong it, that it is important for us to learn all we possibly can about it.

How to Control Molt.—The things most essential are the perfect health of the fowls, freedom from dirt and damp, and absence of lice. With these assets as a base to work on anyone can get hens through the molt in sixty days, provided they will supply the hens with material to work with. The Egyptians could not make bricks without straw, and hens cannot make feathers without mineral matter, for that is chiefly what feathers are composed of. So while the feed should be nutritive, it can be narrowed down to a low ratio composed of very little else but mineral and protein with very little carbohydrates.

What to Feed.—A mash containing beef scrap or meat meal 10 per cent and supplemented with green bone ½ ounce to a hen if it can be got, if not, any kind of good ground bone kept before the hens all the time. The mash should be mostly ground barley, oats, and shorts, not a great deal of bran, and oats for one meal a day, with plenty of green feed, grit, shell, and good fresh water. The less carbohydrates and fibre the hens are made to digest, the better they will use the mineral matter for feathers. In cold weather, they would naturally need more carbohydrates to keep up their fat and flesh and hold up bodily heat, but in summer they are hot enough without heat-producing feed.

How soon they can be got to laying will depend first on the health and condition of the hens and the amount of feed of the right kind being supplied. Hens that molt very early as these have done are liable to have another molt about December or January, but it will only be a partial molt and if extra mineral feed is supplied time enough the hens will not stop laying altogether; or if they do, it will be for a very short time. There is no way of preventing this partial molt. Nature seems to call a halt about that time and the only thing we can do is to keep the feeding and conditions of the fowls as regular and even as possible.

WITH THE LIVESTOCK MEN.

(Continued from page 207)

shipped by J. T. Ragsdale of Merced, to San Francisco, where they will be reshipped to Honolulu.

Beginning August 20, the Golden Gate Thoroughbred Breeding Association will put on 25 days of horse races at the Panama-Pacific Exposition grounds.

A consignment of registered Poland-China shoates were recently purchased from the Kansas State Agricultural College by Chas. Gatewood & Sons of Rolinda.

A report from East St. Louis, Ill., states that a representative of the Italian government is in that vicinity for the purpose of securing 12,000 horses for war uses.

Twenty-three head of mules were recently shipped from Merced to Roseville by W. G. Harris, who is purchasing these animals for the English and French armies.

Six prize saddle horses, a recent importation from Kentucky, were shipped by H. B. Thornberry of Stockton to the Panama-Pacific Exposition to be exhibited until November.

K. G. Chapman of Hartsville, S. C., purchased from the Winona Ranch at Grants Pass, Ore., the first purebred pig ever shipped by a Pacific Coast breeder to the South Atlantic states.

J. M. Bomberger of Modesto recently shipped to Wm. K. Notley of Pacivilo, Hamakua, Hawaiian Islands, two sows and one Berkshire boar. He also shipped to N. W. Kaufman, Crows Landing, a six-months-old boar pig that weighed 230 pounds net.

The Empire Rabbitry of Empire, Cal., have between two and three thousand fine animals. They report the sale of $2478 worth of rabbits between June 20, 1914, and June 20, 1915, besides numerous sales since the latter date.

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CALIFORNIA POULTRY PRACTICE
By Mrs. Susan Swaysgood.
PACIFIC RURAL PRESS, Publishers.
525 Market Street, San Francisco, Cal.

The Home Circle.

THINGS TO FORGET.

If you see a big fellow ahead of the crowd,
A leader of men, marching fearless and proud,
And you know of a tale whose telling aloud
Would cause his proud head to in anguish be bowed,
It's a pretty good plan to forget it.

If you know of a skeleton hidden away
In a closet and guarded and kept from the day,
In the dark; and whose showing, whose sudden display
Would cause grief and sorrow and lifelong dismay,
It's a pretty good plan to forget it.

If you know of a spot in the life of a friend
(We all have such spots concealed world without end),
Whose touching his heart-strings would play on and rend,
Till the shame of its showing no grieving would mend,
It's a pretty good plan to forget it.

If you know of a thing that would darken the joy
Of a man or a woman, a girl or a boy,
That will wipe out a smile, or the least way annoy
A fellow, or cause any gladness to cloy,
It's a pretty good plan to forget it.

If you know of a thing, just the least little thing,
Whose telling would cork up the laugh or the grin
Of the man you don't like; for the Lord's sake keep it in.
Don't, don't be a knocker; right here stick a pin,
It's a pretty good plan to forget it.
—J. M. Lewis, in Pioneer.

TWO LITTLE SHOES.

Two little shoes were standing on the shelf in the shoe shop. They were very shiny, their lacings were uncrumpled, they were new shoes, they were boys' shoes!

They could look out of the window into the busy street. They could look down into the busy shop. They could see everything, yet the little shoes were not happy.

"I wonder why I feel so queer?" said the little shoes to a pair of men's shoes at his side. "Big shoes, tell me why? You are so much wiser than I am."

"But how do you feel, little friend?" said the big shoes, kindly.

"Oh,—empty, hungry," replied the little shoes in a very forlorn way.

"That is because you have no small, dancing feet laced up inside you. But do not lose heart. Some day your boy will come. He will run up and down all day long, and then you'll not be lonely, then you'll not feel hungry."

"Will he come today?" cried the little shoes, eagerly.

"No one knows. Just wait and see." So each day the little shoes waited hopefully. At last a sunny spring morning came and with it a pretty lady. Now the lady held by the hand a little boy who could not keep still one minute. He had bright goldy locks that went bibbety-bob. His cheeks were like two pink roses, and his mouth was made to kiss.

Little boy ran up and down the shop. He chased the solemn old dog from his warm corner by the fire. He tried to climb up on the backs of the chairs. At last the shop man caught hold of him and swung him up on the cushioned bench.

"Hi! Mister," he said. "When a fellow wants a pair of new shoes, he has to keep still just a minute."

The little shoes almost trembled when they saw the man come his way. Was that his boy? Was he really to be chosen at last?

The shop man reached up and took down the little shoes. "Here's just what you want, ma'am," he said. So the old shoes were taken off and the new ones slipped on. Oh, how warm and pleasant it was to feel those fat toes cuddling away inside! The shoes no longer felt empty and hungry.

"How do they feel, Bunny?" said the pretty lady, after the shoes had been laced.

"Just yovely," said the little boy. "Can't I wear 'em home, Mother?"

"Are you sure they are all right?" said Mother, doubtfully.

Little boy slid down from the seat and ran skipping to the other end of the shop, every yellow curl bobbing. "They're just yovely." he cried.

So the old shoes were left to be mended, and they all started for home.

"Good-bye, kind, big shoes!" cried the little shoes. "Good-bye, little friend," said the big shoes. "I'm glad your boy has come."

So the plump feet in the new shoes danced home. They went up and down and around the house and yard until bedtime, and then both shoes and boy were tired out.

The little shoes felt lonely and sad when the boys feet were taken out of them. They wondered if that was the end of all good things. But another day came, with its sunshine and the boy's sweet laugh.

"You must not go out of the yard, Bunny," said Mother.

"No, Mother, I'll not," promised little boy, dutifully. For a long time all went well, then the boy stood by the gate and peeped out.

"Oh, dear!" thought the little shoes. Boy opened the gate and at the same time looked up at the windows: no one was watching.

Then one foot slipped outside. "No! no!" cried the shoes. But the boy did not listen, and out went the other foot.

"Don't! don't! please don't," implored the little shoes. "Mother said, 'No! No!'" But still the boy did not listen. The feet began to run and the shoes had to run, too.

They went down to the river, and little boy picked up pebbles and threw them into the water. It was such fun, and he threw harder and harder. Suddenly his foot slipped, and over went boy and the new shoes into the water!

A man heard boy scream and pulled him out. He was not hurt, but, oh, so wet. The man was a kind man and carried him home. Mother was just coming out of the gate when they reached there.

"Oh, Bunny!" said Mother, sadly, when she had heard the man's story and thanked him.

"I couldn't help it! The shoes made me go! I didn't want to. I tried not to, but they just made me!"

"The new shoes?"

"Yes, Mother."

"Then they were very naughty! I think we must hang them." Oh, how unhappy the shoes were. Boy, his boy, had not been true to him!

Boy was stripped and popped into a warm bath. Then he was rubbed, rolled up in a blanket, and put to bed. Then mother took the shoes and hung them over the fire.

Sad, indeed, were the little shoes. The water rolled down their lacings and fell in drops to the floor. It truly looked as if the shoes were crying. Boy watched the drops with a strange, heavy feeling in his heart.

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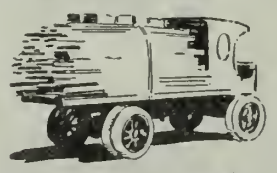
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—Inside doors of best sugar pine, 5 panel Colonial and 5 panel O. G., varies a big lot of them, in all sizes.



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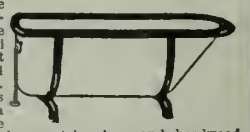
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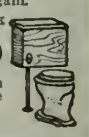
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It got bigger and bigger and boy began to cry.

"What is it, Bunny?" said his Mother.

"Don't hang my new shoes! They didn't do it! See, they're crying!"

"Who did it, then?"

"I did! I ran out of the yard! The shoes didn't make me."

"Poor little shoes," said Mother, taking them down. "Bunny is sorry. You shall not be hung any more."

Oh, how happy the shoes were as they stood on a cricket by the fire and got nicely dried. His boy had been true to him after all.

Boy went to sleep, and the yellow kitty snored before the fire, too. By and by some one rubbed the shoes with oil and made them soft once more.

The next day little boy woke up laughing, and the happy time began all over again.

HINTS FOR UNTRAINED NURSES.

Any woman can do a certain kind of nursing at a time when it is impossible to have a trained nurse, or when a trained nurse is not necessary. Some practical suggestions, called "Sick-room Dont's," are given by Mary F. Scott in a recent number of The Nurse, to make the nursing easier and better:—

Don't allow the sheets to become wrinkled.

Don't jar the bed by leaning or sitting upon it.

Don't allow stale flowers to remain in the room.

Don't appear anxious. People who are ill are very sensitive.

Don't rattle papers. Nothing gets on a patient's nerves more than this.

Don't have a carpet in the sick-room if it can be avoided; use matting instead. It may be kept clean by throwing damp tea leaves over a part of the room at a time and quietly brushing them up with a hand broom.

Don't shut out light from the sick-room when the patient is able to tolerate it. Make the sick-room the most cheerful and best ventilated room in the house.

Don't let bad air remain in the sick-room. Pure air is imperative. Avoid air from the kitchen or clothes closets. Outside air is best, but when cool, there should be a fire in the room to take off the chill.

Don't neglect screens to shade the light from the eyes of the patient.

Don't forget a nursery lamp to heat water, beef tea, etc.

Don't neglect the means to tempt an invalid's apeptite. Dainty service and delicate china will often do this.

Don't forget to vary the seasoning of food, according to the condition of the patient.

Don't give the patient toast that has not been put in the oven first and then toasted. It improves the taste and digestibility.

Don't let the patient suffer for a cooling drink when one can be given safely. This is a good way to make one: Pour one cup of bran into water and boil it an hour, strain, and add sugar and lemon juice. It is good for the patient and leaves a pleasant taste in the mouth.

Don't always bring flowers to invalids. Try daintily prepared edibles. You will be repaid when you see how pleased the sick persons will be. Nourishing broths and soups, jellies, creamed chicken, or creamed oysters in a delicately tinted bowl will bring joy to their hearts and comfort to their stomachs.

Don't open the window at the bottom only; open at the top, too.—From the New York Evening Post.

PURIFYING DRINKING WATER.

For the destruction of all dangerous bacteria which may be in water nothing equals in efficiency and convenience ordinary chloride of lime. This may be obtained from almost any grocery store in 10-cent cans and the amount required is so small as to make the cost for the entire season almost negligible. It should be used in the following manner:

One tablespoonful of the chloride of lime is dissolved in ten quarts of water. This quantity is sufficient to treat 1000 gallons of water, and the operation is carried out by simply pouring the clear solution into the water to be treated, and stirring thoroughly. This solution is a powerful germicide and its action is very rapid—ten minutes or so being all the time required to carry out the purification. One quart of this solution is sufficient to treat effectively a tank containing 100 gallons of water and one pint of it stirred into the 50-gallon water barrel filled with water will destroy any dangerous germs and make water safe for drinking purposes. The solution should be prepared fresh each time as it loses strength on standing, and the can of chloride of lime should also be kept tightly closed until needed again.

One is cautioned against the use of too much of the chemical, not because it is dangerous at all, but because an undesirable odor or taste may be imparted to the water where too large amounts are used. The strength of solution indicated above used in the manner described will be found perfectly satisfactory. The qualities of the water will in no wise be impaired and no undesirable conditions will arise from its use. On the other hand dangerous water may be made safe and much sickness prevented.

WHERE SHE SPANKED.

A little boy had eaten too much underdone pie for his Christmas supper and was soon roaring lustily.

His mother's visitor was much disturbed.

"If he was my child," she said, "he'd get a good, sound spanking."

"He deserves it," the mother admitted, "but I dont believe in spanking him on a full stomach."

"Neither do I," said the visitor, "I'd turn him over."

An amateur photographer stopped one morning at a Kansas farmhouse and inquired for the farmer. "I want to trespass on your premises," he said, "long enough to take a picture of that cornfield. It's the most magnificent one I ever saw." "That's all right," responded the farmer. "But you'll have to take it instantaneous—it's growing so fast."

Little Dick: "Johnny Wheeler has a new bicycle." Father: "Another? What is he going to do with the old one?" Little Dick: "He's goin' to sell it to me as soon as you give me the money."

Prudent Wife: "What have you laid up for a rainy day, John?" Happy Jack: "A mackintosh, my dear."—The Christian Review.

"What's veal, Benny?" "Oh, it's the part of the cow we eat before she grows up."—Sacred Heart Review.



Wear-Proof

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The Markets.

Unless otherwise quoted f. o. b. San Francisco.

San Francisco, Aug. 25, 1915.

WHEAT.

New developments in the war situation have caused a noticeable weakenlng of the wheat market all over the country, though there is little quotable change locally. California and northern club have receded slightly from the advance of last week. Trading is very quiet.

Sonora	$1.77½ @1.82½
Cal. Club, ctl.	1.77½ @1.80
Forty-fold	1.80 @1.85
Northern Bluestem	1.95 @2.00
Northern Club	1.77½ @1.80
Northern Red	1.75 @1.90

BARLEY.

The scarcity of ships is retarding the export movement, but the shipping grain is steadily held. Feed, however, is easier, with large supplies coming in and no active demand.

Shipping	$1.32½ @1.35
Choice Feed, ctl.	1.20 @1.25

OATS.

The market on oats is considerably weaker than for some time past, but so far there has been no quotable decline in values, though lower prices are expected soon.

Red Feed	$1.35@1.45
White	1.50@1.55

CORN.

Prices remain stationary, and while there is a fair jobbing movement of feed corn, few important transactions arc under way.

California Yellow	$1.80@1.85
Eastern Yellow	1.85@1.90
Milo Maize	1.75@1.80
Manchurian	1.40@1.60
Kaffir	1.80@1.85

BEANS.

Blackeyes have been marked down sharply, and recent offerlngs of red kidney beans have falled to bring the previous quotations. In most other lines, however, the market is decidedly firm in tone, though no advances are reported. This ls due primarily to a heavy movement for export, which has greatly reduced the local surplus. Crops, also, are not looking quite as well as was expected; though the acreage in most varieties is large and the outlook is still for a large productlon. The llma crop in some sections, however, is said to be very llght.

Bayos, per ctl.	$3.75@3.85
Blackeyes	3.00@3.50
Cranberry Beans	3.50@3.75
Horse Beans	1.75@2.00
Small Whites	3.75@3.90
Large Whites	3.50@3.75
Plnk	3.00@3.20
Limas	4.15@4.25
Red Kldney	4.50@5.00
Mexican Reds	4.90@5.00

SEEDS.

There ls practically no movement in most lines, but some large advance contracts for alfalfa seed are reported in the country. New alfalfa will not be offered on the spot for some time.

(Wholesale prices, San Francisco.)

Alfalfa	17 @18 c
Brown Mustard, per lb	Nomlnal
Canary	10 @12½c
Hemp	3 @ 3½c
Millet	2½ @ 3 c
Timothy	7½ @ 8 c

HAY.

Arrivals for the last fortnight have dropped off greatly, and everything is cleaning up without difficulty. It does not look as if offerings would be larger from now on, and with a very firm tone to the market already an early advance is expected. The export movement continues, and has already taken a heavy tonnage, greatly strengthening the situation. Moreover, the alfalfa crop in the valley is sald to be below expectations, which will have a tendency to raise prices all along the line.

(On track, San Francisco.)

No. 1 Wheat, per ton	$11.50@12.50
do No. 2	8.50@10.00
Barley	8.00@10.00
Tame Oats	9.00@12.50
Wild Oats	7.00@ 9.00
Alfalfa	8.00@11.00
Stock Hay	5.00@ 5.50
Straw, per bale	.25@ .40

FEEDSTUFFS.

Rolled barley has been marked down slightly, in sympathy with the whole grain. Other lines are still steadily held, with about the usual demand for this season.

(Wholesale prices per ton, carload lots, San Francisco.)

Beet Pulp, per ton	$20.00@21.00
Alfalfa Meal, ton	14.00@15.00
Alfalfa Molasses Meal per ton	18.00@19.00
Bran, per ton	28.00@29.50
Oilcake Meal	38.00@39.00
Cocoanut Cake or Meal	23.00@25.00
Cracked Corn	41.00@42.00
Middlings	35.00@37.00
Rolled Barley	26.50@27.50
Rolled Oats	33.00@34.00

VEGETABLES.

Prices show considerable fluctuation, some seasonable lines being plentiful and cheaper, while others are recovering from last week's decline. String and lima beans are both a little lower, and tomatoes are very cheap, with river stock selling as low as 25c. per lug. Green corn also is quite easy, with heavy offerings of only fair quality. Cucumbers show little change, while bell peppers are picking up a little, and summer squash and eggplant are higher.

(Wholesale prices, San Francisco.)

String Beans	1 @ 2 c
Lima Beans	2 @ 3 c
Peas, sack	.75@1.50
Peppers, bell, bx	.25 @40 c
Tomatoes, lug	.25 @65 c
Cucumbers, lug	.20 @35 c
Eggplant, lug	.35 @40 c
Summer Squash, lug	.25 @40 c
Green Corn, sack	.60@1.25
Okra, lug	.40 @70 c

POTATOES AND ONIONS.

The general tendency is downward, with heavy offerings of all lines. A few Salinas potatoes bring fair prices, but river stock is very cheap, and the same is true of onions. Some Bermudas are still in the market, and move very slowly. The most interesting feature is a heavy shipping movement of onions to Australia, though this has not yet stiffened the local market.

Delta Burbanks	.60 @80 c
Sweet potatoes, lb	2 @ 2¼c
Onions, ctl.	.50 @55 c
Garlic, per lb., new	5 @ 7 c

POULTRY.

The demand has been quite active, and while arrivals of both local and eastern stock are large, values in practically all lines are well maintained.

(Wholesale prices, San Francisco.)

Live Turkeys, lb	.15 @28 c
Broilers	.28 @30 c
Fryers	.22 @23 c
Hens, extra, per lb	.16 @17 c
Small Hens, per lb	.13 @15 c
Smooth Young Roosters per lb.	.23 @25 c
Squabs, per doz	$2.00@3.50
Geese, per pair	2.00@2.50
Ducks, young, lb	.13 @14 c
Old	.12 @13 c
Belgian Hares	7 @ 8 c

BUTTER.

The shipping movement to Australia has been interrupted, but there ls still a good deal going to other quarters, and while arrivals are heavy the market shows some improvement, extras being ½c. higher.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	27½	27½	28	28	28	28
Prime Firsts	26	26	26	26	26	26
Firsts	25	25	25	25	25	25

EGGS.

Shlpments, including a good many from distant points, have been arriving rather in excess of requirements, though the local movement is unusually large. Prices accordingly show considerable decline for both extras and pullets.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	31½	30	30½	30	30	30½
Sel. Pul.	27½	27	27	26½	26	25½

CHEESE.

The market seems to be picking up a little, both Y. A.'s and Monterey cheese being quoted higher. California cheddars are now quoted on the Exchange, and whlie offerlngs so far are limited, it is expected that this type will receive increasing attention.

(S. F. Dairy Exchange prices on flats and Y.A.'s.

Y.A.'s, fancy	14½c
Fancy Calif. flats, per lb	12 c
Monterey Cheese	12@14c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	30	30	30	30	30	29
Cheese	12	12	12	12	12	12

DECIDUOUS FRUITS.

The movement in the local fresh fruit market continues heavy, and while offerings likewise are large, prlces are holding up very well, some lines showing an advance over last week. Huckleberries and blackberries are firmer, and a few raspberries have sold at stiff prices. Prunes are easier, while plums do a little better. A few fancy figs bring an advance, but ordinary lots are unchanged. Nectarines and peaches have been marked up a little. Fancy pears are easier and there is a good deal of trashy stock that is hardly worth quoting. Some lines of apples are doing a little better than last week, but the market in general shows no strength. Melons are about as before. Some large Persian cantaloupes are appearing, and find a fair market as quoted. Attractive lots of grapes in crates are steadily held.

Huckleberries, lb.	9 @11 c
Strawberries, chest	1.50 @3.00
Blackberries, chest	1.25 @2.00
Plums, crate	.50 @75 c
Prunes	.60 @75 c
Figs, bx., double layer	.75@1.00
Nectarines, crate	.75 @85 c
Pears, Bartlett, bx	.75@1.25
Peaches, small box	.30 @50 c
Lugs	.50 @90 c
Apples, Grav., 4-tier	.75@1.00
4½-tier	50 @75 c
Alexander, 4-tier	.50 @75 c
Belleflowers	.50 @75 c
Persian cantaloupes, doz	1.00@3.00
Cabasas, crate	1.00
Cantaloupes, crate	.40 @85 c
Watermelons, doz.	1.00@3.50
Grapes, crate, Thompson Seedless	.50 @65 c
Malaga	.55 @75 c
Tokay	.75@1.00
Muscats	.60 @75 c

DRIED FRUITS.

The trade is still a little uncertain about values, but there is a stronger feeling in regard to the market in general than for some time, and quotations may be considered steady at the old range. Apples are still scarce, and new offerings find ready sale at the range quoted. The firmness in apricots seems to be pretty well established, and fancy moorparks in favorable locations would bring 8½c., though some poor stock is still being bought considerably below this figure. Figs are firm, with shipments from the Orient cut off and some likelihood of a demand from Europe. There has been further European buying of prunes, taking up most of the spot offerings in the east, and buying of the new crop is proceeding steadily at the former range. Prospects of an organization to market peaches have lead growers generally to hold back, and some are asking extreme prices, though there is so far no demand at any advance over the former quotations. Considerable interest has been taken in consuming markets in the new prices on seedless raisins, which are in good demand. Old crop raisins, also, are in active demand for Europe. The New York Journal of Commerce say:

"The spot market on old crop raisins maintains its strong tendency, and with no diminution of European inquiry, and the domestic demand being steadily held, prices have a very strong feeling and stocks are becoming very limited. European sources continue to buy here and shipments are made in fairly heavy quantities with great regularity, according to well posted operators in the market.

"All advices show that the future Prune market is still holding a steady feeling. There is no change made in the quotations being asked. The spot market is being well and buying continues to be restrict- cleaned up by the constant buying in small quantities, which has been in progress for the last month.

"Future Apricots are apparently having no difficulty in maintaining their firm tendency, and, though there is practically no buying reported, there seems to be no inclination tending toward a decline in prices."

(Prices to Growers.)

1915 crop	
Apples	5 @6 c
Apricots, per lb	5½ @8 c
Figs, white	3 @3½c
Black	2¼ @3 c
Calimyrna	5 @5½c
Prunes	3⅛ @3⅜c
Peaches	2½ @3 c
Pears	5 @8 c
Raisins (in sweatbox):	
Loose Muscatels	4 @4½c
Seedless Sultanas	5 @6½c

(San Jose prices to growers, 1915 crop.)

Aprlcots, per lb	7½ @8¼c
Prunes, subject to dist	3½ @3¾c
Peaches	3 c
Pears	5 @6½c

CITRUS FRUITS.

Shlpments of Valencia oranges and

Bean Bags,
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lemons from the State continue lively, averaging over 30 cars of oranges and 20 cars of lemons daily. Prices for Valencias continue good and lemons are increasing. On the New York auction, Monday, Aug. 23d, valencias averaged from $3.60 to $5.40 per box and lemons averaged from $1.60 to $3.25. Other auction points paid about the same prices as New York.

The advance at shipping points has been followed by quite a sharp advance in Valencia oranges in the San Francisco market. Other lines are unchanged, lemons and grapefruit being in very good demand in this market.

(Wholesale Prices, San Francisco.)

Oranges, Valencias, bx.	$3.50@4.50
Grapefruit, seedless, bx.	2.50@3.00
Fancy	3.00@3.50
Lemons, box	1.50@3.50

NUTS.

The almond harvest is now well under way, but none are ready for shipment yet. The Exchange expects to name new prices within a few weeks. Meanwhile buyers are picking up what they can get at widely varying prices. It is reported that the new walnut crop is heavy, but spot prices are altogther nominal.

(Prices f. o. b. San Francisco.)

Almonds, 1915 crop:	
Nonpareil	15½c
IXL	14½c
Ne Plus Ultra	14 c
Drakes	12½@13 c
Languedocs	11 @11½c
Walnuts:	
Jumbo, lb	19 c
No. 1 Softshell	16½c
Budded	18 c
Ungraded	8 @10 c
Manchurian	11 c

HONEY.

Values stand as before, but there is a little easiness, with rather large arrivals and a rather scattering demand.

Water White, comb	12 @13 c
Water White, extracted	5½@ 6½c
Light Amber	3 @ 4 c
Dark	3 @3½c

LIVE STOCK.

Sheep are arriving in ample supply, and prices for both ewes and wethers show a slight decline. Otherwise live stock stands as before, while dressed steers are easier.

(Prices at San Francisco.)

Steers, No. 1	6¼ @ 6½c
No. 2	6 @ 6¼c
Cows and Heifers, No. 1	5½@5¾c
No. 2	5¼ @ 5½c
Bulls and stags	4 @ 5 c
Calves: light	8 @ 8½c
Medium	@ 7½c
Heavy	6 @ 7 c
Hogs, Grain-fed:	
200 to 300 lbs.	7 c
100 to 200 lbs.	7½c
Prime Wethers	6 @6¼c
Ewes	4¾@5 c
Suckling lambs	7 @ 7½c
range.	

DRESSED MEATS

Steers	10 @10½c
Veals, large	12½@13 c
Small	14 @15 c
Prime Wethers	12 @13 c
Ewes	11½@12 c
Suckling lambs	13 @14 c
Hogs	12 @12½c

WOOL.

Trading is quiet at present, as usual at this time of year, values being nominally maintained at the old range.

Humboldt & Mendocino	18@27c
Wool, Sacramento Valley, lb	18@22c
Southern, year's staple	15@18c
Six months	14@16c

HORSES.

The local market continues dull and uninteresting. A few horses have come in recently, but the offerings have received little attention, and it will apparently be some time before the city demand will call for large shipments. There is a very fair demand in the country, however, and prices are well maintained within the range quoted.

(Approximate values at San Francisco, based on auction sales.)

Heavy drafters, 1700 lbs. and up	$275@300
Light drafters, 1550 to 1650 lbs.	200@225
Chunks, 1350 to 1500 lbs.	165@185
Wagon horses, 1050 to 1350 lbs	125@150
Green Mountain range horses, 950 to 1200 lbs	50@ 90
Farm workers	60@ 75

MULES.

1200 lbs and up	200@225
1100 lbs	175@200
1000 lbs	140@160
900 lbs	90@150

HIDES.

The demand in the east is said to have slacked off a little, but offerings here are light, and prices are pretty steadily held.

lbs.	16 @17½c
Medium	16 @17½c
Light Steers under 48 lbs	16 @18 c
H'vy Cows, over 50 lbs.	16 @18 c
L't Cows, 30 to 50 lbs.	16 @18 c
Kip	16 @18 c
Veal	18 c
Calf	18 c
Dry Hides	27 @28 c
Dry Kip, 10 to 15	26 @27 c
Dry Veal, 5 to 10	31 c
Dry Calf, 7 down	31 c
Horse Hides—	
Salt: Large	$3.00
Medium	2.50
Small	1.00

HOPS.

Picking is now well under way in the Sacramento Valley, where prospects are good. With reports of a shortage in Oregon and a light English crop, the market is strong, and numerous purchases have been made at the last quotation.

1915 crop, lb ..... 13@14c

SPECIAL DECIDUOUS FRUIT REPORT.

By J. L. Nagle.

Sacramento, Aug. 24, 1915.

Peach shipments from California will be light for the next ten days. After that, owing to the indisposition of the canners regarding Clings, it is likely that 300 cars or more of the late varieties will be packed in the regulation boxes and shipped East.

Plum shipments, with the exception of a few of the mountain districts, have practically stopped and this is true also of Bartlett Pears.

Owing to the sugar content of Grapes, both Malagas and Tokays, not equaling the amount specified by law, shipments are very light, consequently the demand is active and the markets strong

There is still an abundance of fruit in the East and the far eastern markets show no inclination whatever towards buying California Peaches.

On account of the great proportion of inferior Bartletts that have been shipped East this season, clean stock was welcomed and buyers paid fancy prices. This condition will continue to rule throughout the season on well colored stock.

Late Plums have not done as well as was expected, due in a great measure to the condition of their arrival, which has been affected either by the extreme heat or over irrigation.

Packers are showing considerable activity in the Tokay districts and we look for a firm, steady market all through the grape season. There seems to be an upper tendency towards the buying of wine grapes and already quotations are out for from $12 to $14 on zinfandels. It is hoped that packers will be extremely careful in putting up Tokays and Malagas this season, as any tendency towards over-crowding the market with inferior stock will surely bring disastrous results. As the situation faces us now, we anticipate a strong demand on the two varieties of grapes in which California is most interested.

The following have ruled for the week:

New York.—McDevitt Peaches, averaged $1.15; Albright, $1.35; Elberta, 40c.; Crawford Clg., 90c.; Duke Plums, $1.05; Kelsey, 90c.; Giant, 75c.; Diamond, 90c.; Bartlett Pears, $2.12; B. Hardy, $1.42; Tokay Grapes, $2.64.

Chicago.—Bartlett Pears, $1.64; Elberta Peaches, 56c.; Crawford, 40c.; Malaga Grapes, $1.49; Tokay, $1.74; Kelsey Plums, 99c.; Hungarian, 96c.; Duke, 97c.; Giant, 88c.; Gross, $1.00.

Boston.—Bartlett Pears, $2; Kelsey Plums, $1; Gross, 97c.; Grand Duke, $1.05; Giant, 80c.; Hungarian, 83c.; Elberta Peaches, 48c.; Crawford, 48c.; Malaga Grapes, $1.43.

Total shipments to date, 6863 cars. Total shipments to date, 6863 1914, 7698 cars.

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Publisher's Dep't.

Reports come to us frequently of the fine results Rural Press advertising is bringing. During the past week, we have heard from two stock advertisers each of whom are represented in our liner department. E. C. Rand of Santa Rosa, a purebred Berkshire breeder, after trying out several mediums, has decided to use the Rural Press exclusively in the future. C. E. Barrows of Los Molinos reports receiving four inquiries through the Rural Press to one from other journals. He has sold over $600 worth of purebred hogs as a result of a liner costing $14. Every breeder of registered live stock in California should use either display space or the liner department in this paper.

In this department last week the printer made us say that the new "California Hog Book" would be sold at $1 per copy. The price should have read $2 per copy postpaid. Work on the book is progressing nicely and we anticipate issuing a handsome volume, chuck full of information to the hog breeder. Remember the price is $2 per copy.

W. J. Warnock of Ramona writes: "One copy of the Rural Press is oftentimes worth more than a whole year's cost to me."

One Nevada subscription solicitor sent us in forty-four new subscribers as the result of his work last week.

MEDICAL USE OF A SHEEP.

Battle Creek, Mich., boasts a scientific sheep—a sort of a b-a-chelor of science. His name is Sam and for a number of years he has been an important member of the scientific staff of a local sanitarium, giving much and exacting little, and always on the job whenever needed.

"Scientific Sam" serves in the capacity of an experiment station. He supplies blood by comparison with which, in a blood testing technique, the state of health of sanitarium patients is partially determined. By reason of these tests, Sam's blood has mingled freely with that of many blue-blooded health seekers who have gone there for treatment.

POTATO GROWERS' MEETINGS.

The decline of yield of potatoes to one-fifth that of five years ago in most of the potato growing sections of California, is both startling and alarming. The cause is well known by the few. It is fungous attack. Methods to destroy these fungi are known. Disease-free seed is scarce and difficult to procure. Certified seed, known to be sound, brings from two to five times that which has not been inspected, and is, therefore, very likely infected with disease germs. It follows that education regarding these handicaps to successful potato production is a vital need to our potato growers. This has led to the following schedule of potato meetings in September: Bakersfield, Kern county, September 14th; El Monte, Los Angeles county, September 16th; Perris, Riverside county, September 17th; Salinas, Monterey county, September 20th; and Stockton, San Joaquin county (meeting of the West Coast Association), Thursday, September 23rd.

W. N. Shear, of the United States Department of Agriculture, and A. J. Cook, State Commissioner of Horticulture, will address each of these meetings. Full discussion by the growers present will be a valuable feature of each conference and effort should be made to secure large attendance of those interested at these meetings.

SALINAS SUGAR FACTORY ACTIVE.

The crushing season at the Spreckels sugar factory will start soon on the largest tonnage of beets in its history. There are 27,000 acres in all, ranging from Santa Clara to San Joaquin county. The tonnage has been estimated at 300,000 tons and the saccharine matter will run very high. The average price in this vicinity last season was $6.30 per ton, and at this rate the farmers will receive $2,700,000 for their beets. On account of the bright prospects farmers are already signing up for larger acreage the next season.

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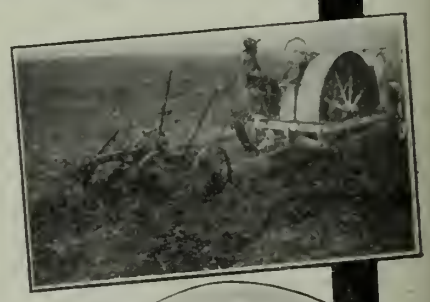
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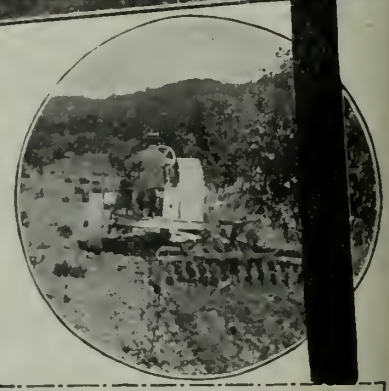
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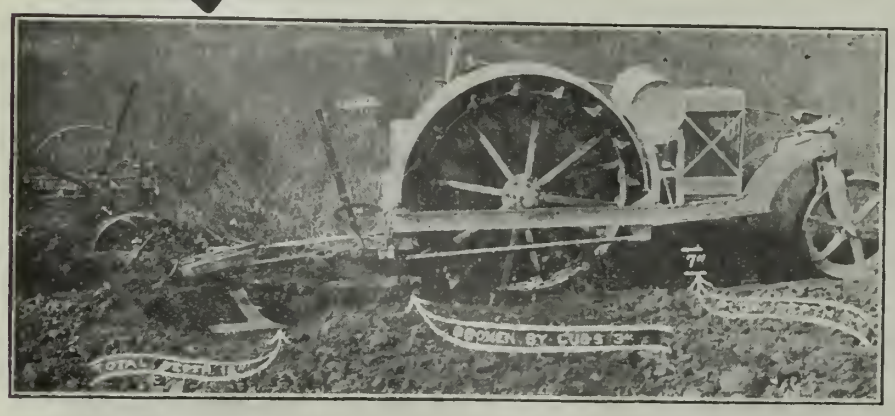


Photo at the left shows BIG BULL pulling two 14-inch plows and a sub-soiler at Eugene, Oregon. Note Bull wheel lugs breaking hardpan in furrow.

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Vol. XC—No. 10 Forty-Fifth Year

THE PACIFIC RURAL PRESS

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Sheep Pay Well on Small Farms.

It is a very important matter to have more lamb and mutton for Californians to eat, and to have better lamb and mutton also. Who can produce it profitably?

[Written for Pacific Rural Press.]

California sheep are mostly raised in large lots of woolly ewes turned loose on any old kind of range, muchly uncared for, with mutton rams to breed any old time so that lambs come in good weather too late for the best markets; all driven in summer to grain stubble fields to fatten the lambs; old stock sheared twice a year; whatever profit there may be, is looked on as mostly clear gain, while whatever loss comes did not cost anything much anyhow. They are fed entirely on forage during one season of the year, and on grain and dry straw during the other, little attention being paid to consistent building of the best flesh or getting the best growth by balancing rations; or raising the largest percentage of lambs by providing shelter; or raising them to sell on the best seasonal market.

That this system makes money in our mild California climate is proved by the large flocks which inhabit most of our foothills. But whether sheep pay on the small farm is still a question in the minds of many oldcomers as well as newcomers.

That sheep do and will pay on the small farms, the Pacific Rural Press will prove by printing a series of articles giving the actual experiences of those raising sheep on small acreage in California. That they do and have paid on small farms in the East is familiar to anyone who knows Michigan and Ohio. First in this series is the article printed below as nearly as possible as told us by E. F. Byrnes of Marin county, who raises sheep without shelter on a hill ranch of about 200 acres, besides about 50 acres of grain and an acre or two of orchard.

Other articles will tell how sheep pay the expenses and living on the small subdivided farms, while orchards are coming into bearing; how irrigation ditches are kept clean with sheep at no cost except fences and a trifle of grain, having the lambs and wool for profit; how four Merino waifs became the foundation for a well-known high-producing herd of 75 ewes.

Those of our readers who can write definitely of success on small-farm sheep-raising are invited to contribute their experiences for the good of all. Mr. Byrnes' narrative is as follows:



Sheep do best on good pasture with a little grain and personal care and shelter at lambing, but they thrive anywhere that weeds grow, and make profits from unplowable land.

"I began with 150 mature sheep and 30 lambs brought directly off the range three years ago, after selling the cows on account of trouble in the herd. They were mixed Shropshire, Merino and Southdown for both wool and mutton. Four were Shropshire-Merino rams. When I started, I did not know anything about sheep, but learned several things by experience. I am dairying again, milking 25 cows, but I would not be without the sheep now if for nothing else but to clean up the weeds.

"I kept a dozen extra lambs this year besides replacing a few old ones which are sold every year, so there are about 200 in the breeding flock. I have found those with the most Southdown blood in them the most prolific under our conditions here.

"We have no shelter from the winter rains except the orchard, but usually raise about 90 per cent. Fifteen or twenty of the ewes last year had twins, but the coyotes got about 20. Usually a ewe which has twins one year will have only one the next. One which is now six years old had two lambs this year. Two other old ones are so large and have such big lambs I hate to let them go.

Lacking Shelter, Early Lambs Best. — "Lambs which come in January and February make market size quicker; but if they come earlier they get bigger by the time heavy storms come, when the bigger they are the better, especially if one has no sheds. Then if the storms come and go there will be no harm, but if storms are long continued, the soaking is likely to kill the lambs. Last year we had 150 lambs by December 1, but this year we have a man to help and can take better care of them, so may breed for them to come later.

"The ewes are turned out on a special range about lambing time, because they do not bring the lambs to the house and I have to ride out after them, sometimes bringing in as many as 20 in the evening. The others come home all right, and we corral them in the orchard every night on account of the dogs, which killed five when I first got the sheep. In winter time, when the orchard is muddy, we keep them on the hillside in a woven wire corral, which keeps dogs and coyotes out.

(Continued from page 234.)

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California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at 5 p. m., August 31, 1915.

STATIONS	Rainfall Data: Past Week	Rainfall Data: Seasonal To Date	Rainfall Data: Normal To Date	Temperature Data: Max'm	Temperature Data: Min'm
Eureka	0	.26	.21	66	50
Red Bluff	0	0	.02	110	66
Sacramento	0	0	.01	106	58
San Francisco	0	.01	.01	86	52
San Jose	0	0	.04	98	56
Fresno	0	0	0	108	58
Independence	0	.04	0	98	54
San Luis Obispo	0	.01	.05	96	52
Los Angeles	0	0	0	98	58
San Diego	0	0	0	90	62

THE WEEK

Signs of autumn gather. During the week the Mexican meteorological system lapped over upon southeastern California and there were roof-rending winds, torrents and temperature drops here and there. In the middle west, the dogs were chased out of their days by temperatures which came near to freezing in the old northwest of the lakes—quite phenomena these for the last days of August. They all mean that it is the season of the later fruits and that California's supplies are going east in better quality than the earlier and that there is more money in them. In table grapes there promises to be especially good reward for high quality shipments, and it is a great joy to have something cheerful about the long-suffering fruit of the vine. However, nearly all our fruits take a tumble now and then and quickly rise again. In fruit growing, as in politics and love, people do like a good loser; and in fruit growing wisely and well done, the chances of losing are few and wide apart and then frequently due to some omission which need not occur again.

Rally on the Peach.

We are very glad that something energetic is already being undertaken for the defense of the California peach along the lines so effectively laid out in our issue of August 21 by Justice Chipman, who called for action in support of the dried peach of the general nature outlined for all dried fruits by G. E. Merrill, in our issue of July 24. These were both pointed applications of the general principles of co-operation, without which our industries can never realize or attain what properly belongs to them. Why fruit growers will take to chopping out trees (if they are healthy and bearing such fruit as a good preserved product requires) without doing a thing to defend the value of the fruit against commercial sensations or buyers' self-interests, we cannot understand. And yet they are doing it, to some extent, simply because some strolling buyer knocks the fruit to serve his own purposes. In saying this we are not knocking the buyers. From the dawn of civilization it has been a part of their art to say: "It is naught"—if they wish to buy it, and when sellers take to buying they are apt to do the same thing. The wonder lies not in this fact but in the failure to recognize the other fact, viz.: whoever desires to get the worth of a thing must boost it. In this line an individual can do little by himself: an association can do everything to get whatever the real conditions allow—and that is all that can be expected in a large way. In Fresno on August 28 there was a rousing meeting of peach growers from the entire San Joaquin valley and it was decided to organize a stock company to control the prices of peaches and peach products. Fifty thousand dollars was subscribed by the delegates at the meeting, and mass meetings will be held throughout the San Joaquin valley next week for further subscriptions. A co-operative selling and distributing company is to be capitalized at one million dollars following the example of the Associated Raisin Company, a million-dollar co-operative marketing organization of raisin grape growers which has brought prosperity to the raisin producers. In addition to the capital stock subscriptions, peach growers are pledging their production to the new co-operative company and the result is expected to be an advance to the producer from two cents, which buyers are now offering, to upwards of five cents, for dried peaches. The two-cent figure does not pay for handling. Peach growers: go to it!

Raisin Mastery.

It is wonderful what a different attitude a producer assumes, toward the community and in his own heart, as soon as he begins to bear a part in an associated effort which is doing something for commercial righteousness. When he has no actual contact with marketing his product, except that which the strolling buyer's silver tongue or the city merchants' sympathetic letter establishes, he is much depressed, and if he is of gentle spirit he will wander among the trees, suffering in silence. If, on the other hand, he is of the bold, kicking type he will stride to the lee side of the sulphur boxes for help to bleach the sky with his language. In both cases, however, he knows he is helpless and his heart is as heavy as that of the captain of a liner who sees the white streak of a torpedo pointing at his hull. Quite otherwise is the mental attitude of the man who, at such a trying moment, feels the shoulder-touch of his fellows in the same craft, imparting the thrill of resolution to go to the very bottom of the threatening situation. (The reader will kindly notice that the word "craft" does not refer to "hull" in the preceding sentence and the "bottom" is not that of the ocean.) It is the strength of association which gives a man confidence that if the situation is artificially created against him, his association will expose its nature, and if things are measurably bad, his association will enable him to modify the consequences. This conviction gives him the public attitude and the state of mind which loyal supporters of the California Associated Raisin Company have created for themselves by their co-operative resolution and effort. It is not necessary to theorize about it: the facts are more eloquent. Last Saturday night a solid trainload of raisins was sent out of Fresno by the California Associated Raisin Company to Eastern markets. This is the first time in the history of the raisin industry that an entire trainload of raisins of one variety has been shipped to the East. It consisted of 41 cars containing 1,600,000 one-pound cartons and 30,000 twenty-five-pound boxes. The balance is in assorted loose raisins. The shipment was valued at $150,000. Another trainload will soon follow.

Such achievements are but a part of the aggressive work in distribution of the Raisin Association. They will spend $160,000, it is said, in advertising the food-excellence of the California raisin at the East and in telling people how to use them as food and not as a luxury. They are now publishing a neat monthly, "The Sun-Maid Herald," for free circulation to the same end. It is clearly a lesson drawn from the "Sun-kist orange" of the Orange Growers' Exchange. What it will mean for the development of the State when the eastern mind, dazzled by the fruit growers' imagery, rushes to the worship of our greatest product, "The Sun-Kissed Maid of California," the reader must figure out for himself. She, of course, is "a peach"—especially if the new association gets its million.

Merchants and Farmers.

We have to acknowledge that we share in the common prejudice against admitting other interests to growers' co-operative undertakings. This prejudice has taken the form of a conviction that when the commercial lion lies down with the agricultural lamb, one encloses the other when the rising comes. It was this prejudice which led us to look askant and write obliquely when we learned last spring that the cantaloupe growers and merchants of Turlock had concluded to hit it off together. But prejudice often leads people aslant and, so far, it looks as though we had hit aside the mark. For we read now that Turlock cantaloupe growers have had a much better market than usual and the writer of the account says:

"Turlock growers have been exercising greater care than ever before in putting up a uniform pack and selecting only the best melons for the Eastern trade. This has been largely a matter of education among the growers, and credit for it is due the Turlock Merchants and Growers' Corporation, a local co-operating marketing concern, which succeeded in making season contracts with a large percentage of the growers of the Turlock district. Through a system of rigid inspection, the corporation has confined Eastern shipments to the very choicest grades, with the result that top prices have been commanded in the Eastern markets, with correspondingly satisfactory returns to the growers. The 'T. M. and G.,' as the local concern is known, on August 16 started its first 'cantaloupe special' to the East. It comprised eighteen cars and its destination was Omaha."

We hope the arrangement will continue thus to work well, for there is surely great theoretical advantage in all good people co-operating for community prosperity and we hope Turlock will demonstrate that civic oil and water can be made into a good permanent emulsion. Of course, for the specific purpose in this case, it was important to mix them, for it is just as important to bind dealers to buy only good

graded goods as it is to bind growers to produce them—possibly even more important, because one of the greatest troubles is to get dealers to pay enough more for good stuff, whether it be cantaloupes or cream, to make the extra cost of producing it profitable. Keep your eye on the Turlockers!

"Jasm": A Needful Thing.

It is fortunate that we have a new word, used for the first time in our hearing at a university meeting in which ex-President Taft participated. The President of the University of Minnesota, Dr. Vincent, was also present and he is credited with the coinage of the new word, although he did not use it on that occasion. The definition of "jasm" is given by a figure of speech but not in words, viz.: "Jasm is what happens when a buzz saw running 1500 revolutions per second strikes a keg of tenpenny nails." It is obviously applicable to a foot-ball scrimmage or other great issue in action, and it is held by some philologists to be a sublimated form of "pep" or "ginger." We count its coinage fortunate because it expresses just what is now most needed in some of the agricultural affairs of this state. Our people, jointly and singly, are quite given to mooning over certain things which it is really needful to do for the advancement of agriculture; for the development of the state; for co-operative marketing to secure the best values attainable; for rural credit to secure proper recognition of agricultural security and preferred rates of interest; for the development of the live stock industry; for the uniform excellence of California butter and for half a dozen other things which are essential to state and individual prosperity. All these things are going forward in a way, but they lack something which no one could define. The new word enables every one to state exactly what is needful: it is "jasm." Who has it, and who will turn it loose on this hemisphere? There seems no lack of it on the other side of the world, but it is being displayed in such a bad cause! Peace has its jasm, no less renowned than war!

Why the Farmer Needs Jasm.

But it is not alone in great co-operative ways that the farmer needs this stupendous motive power. If what is being said about him is true he surely needs it in his regular business. Here is a scientific conception of a farmer, as given by a professional man at one of the recent congresses: "Inasmuch as agriculture is the control of life process of plants and animals for the ultimate benefit of man, chemistry and its allied chemical physics and chemical-biology are sciences vitally important to the successful conduct of the craft. Agriculture can no longer be considered merely as an occupation, but both a science and art, with more art than science."

Surely a farmer needs jasm to saw through that keg of nails, but he must do it. And then jasm in some cases may mean warmth in neighborly spirit: energy in the gentler forms of association. "Rural people do not see each other enough to love each other as they should," was the suggestion at another congressional debate. As a result of the stay-at-home habit of most rural folk, the speaker contended that rural residents are not getting all they should from life. Monthly meetings, at which spelling and computation contests, community singings, etc., were instituted have resulted in a more wide-awake people, better neighbors and greater interest in rural life. This is evidently rural social jasm. Go to it with singing and spelling bees at first, if that seems most practicable; the rural wheel will soon strike some important problem and then we shall have the jasm which the country needs.

Queries and Replies.

Querists must give name and address.

Hogs for Fruit: Not Fruit for Hogs.

To the Editor: I am thinking of buying twenty acres of unprofitable vineyard and starting in with hogs. As the vines go I could supplement pasture and raise my own feed, and keep more hogs. In your opinion would it pay to feed three and a half cent raisins to hogs? How many hogs could I keep on twenty acres, providing I pull up some of the vines and supply them with the necessary pasture?—R. L., Madera.

Of course we cannot tell how many hogs you can keep on land which is shifting from one crop to another and probably both of them poor. But we can safely say that we would not for a moment think of growing fruit to feed hogs: they will save waste of fruit, but they cannot justify growing fruit primarily for their use. Fruit, especially when dried, makes good hog feed, if wisely fed in connection with other feeds, but does not give high value to it. Four pounds of ripe grapes are equal to one pound of barley, and one pound of raisins is equivalent to one pound of barley; so the hogs might return you one and a quarter cents for your raisins, at the present price of good feed barley. If you wish to grow fruit, it will pay to keep some hogs on other land and let them save waste fruit with the alfalfa and grain you grow for them. If you wish to grow hogs, clear off the failing vines and grow alfalfa, Kaffir corn or barley, or else get some good land which does not have to be cleared of unprofitable vineyard. The last chapter of our book, "California Fruits," gives more facts about hog-value of fruits.

Fruit Trees in Vineyard.

To the Editor: Last winter I had about 400 almond trees planted in a vineyard—the grape vines were pulled up where the trees were set. The trees made a good start, but by the 1st of June three-fourths were dead—some say from root-knot; others, from sour sap. Of course I want to save the 100 trees which appear to be in good condition, which will necessitate cultivating the whole field. If it was root knot that killed the trees will it be advisable to replant next winter? The vineyard is standing, except where the vines have been pulled up to make place for the trees. I was told that the vines also had root-knot. I would like to replant the orchard this winter, if it is advisable. —L. M. L., Arbuckle.

Our notion is that your almond trees were either killed by standing water after planting or were dried to death by the thirsty vine roots which occupied the ground. If the land is low and heavy or over hardpan, the former would be likely; if sandy and dry, the latter would be indicated. Time enough did not elapse to admit killing by root-knot: besides if that was the trouble you could see it by pulling or digging up a dead tree.

We would not for a moment think of "spotting" fruit trees in an old vineyard. Either clear the whole ground and get out all the old vine-roots you can, or else take out a row of vines, plow deeply and clean out roots, plant the trees and keep all the ground well cultivated during spring and summer. It is a waste of money to plant trees without arranging for thorough working of the ground before and after planting.

Pot-Bound Plants.

To the Editor: I would like, through the medium of your paper, to caution planters of evergreen trees against the danger of planting potted trees. Some nurserymen will tell you that the roots should not be disturbed, and my experience is that such trees, after a few years' growth, are very apt to blow over because the root system circles around the trunk and does not get a proper hold on the soil. Is there a way to overcome this?—A. M., San Jose.

This is a lesson which planters should learn early. It is not, however, against pot-grown plants unless they are allowed to grow too long in the pots. Pot growing and planting out from pots is a great advantage and not a detriment if the plant is properly handled by the one who plants it out. If the roots have only begun to circle around they should be straightened and disposed in different directions. If the plant is badly pot-bound and roots circled the circles should be cut through with a sharp knife or shears. The cut ends will callus and new roots start out in all directions. Plant sellers should always advise beginners of the proper treatment or knock out the plant, make the cut and push back in the pot for convenience of carriage. Plants with circling roots will, of course, blow over when they grow large tops, because they have no good root-anchorage.

Cutting Back Peaches.

To the Editor: I wish for some information relative to peach trees. I have some trees that are very high and easy to break, and I wish to cut them back to the forks of the trunk, to start new growth. Can this be done, and when is the best time to do the same?—Subscriber, Murphys.

You can put a new head on a peach tree that way very easily. It is better to cut not too close to the fork. We prefer a foot or two, for the branch is smaller at the amputation and there is place for the new growth to start and hold on strongly. The time is just as the sap is starting, as shown by enlargement of the buds. If cut too early the stub is apt to die back considerably.

Papering-down Morning Glory.

To the Editor: I have heard several people say that morning glory could be killed by covering with a layer of tar paper that completely covered the patch, by leaving it on for a season, but no one seems to have actually tried it out. Perhaps some of your readers have tried this out and will know about it.

If so, let them go to it. We have seen many trials but no successes, and a lot of time and material wasted.

Cutting Corn for Forage.

To the Editor: When is the best time to cut field corn to make the best fodder. I have no way of chopping it up.—E. J. P., Paso Robles.

As shown by experience and determined by analyses the whole plant is in richest condition just when the kernels are glazing—that is, in the condition for roasting ears.

Swelling on Hog's Jaw.

To the Editor: Cheesy swellings come on the jaws of my hogs. Lancing them draws a very little blood but no pus. The mass is hard like muscle and keeps enlarging.—H. C., Live Oak.

This is either tuberculosis or actinomycosis. Have these animals tested for tuberculosis by the Intradermal method.—H. B. W.

ACCORDING TO U. S. Government reports dated August 17, the level of prices paid producers of the United States for the principal crops decreased about 0.2 per cent during July; in the last seven years the price level decreased about 0.1 per cent during July. On August 1 the index figure of prices was about 0.9 per cent higher than a year ago, 10.8 per cent higher than two years ago, and 0.2 per cent lower than the average of the last seven years on August 1.

The prices of meat animals—hogs, cattle, sheep, and chickens—to producers of the United States decreased 0.3 per cent from June 15 to July 15; in the last five years prices increased in like period 0.3 per cent. On July 15 the index figure of prices for these meat animals was about 7.8 per cent lower than a year ago, 5.8 per cent lower than two years ago, but 2.0 per cent higher than the average of the last five years on July 15.

More Citrus Cover Crop Experience.

A very suggestive discussion of the relation of cover crops to available moisture supply and important information concerning the melilotus.

[Written for Pacific Rural Press by William M. Bristol.]

So many queries have come to me since my article on cover crops in the Rural Press of July 31 that I am constrained to add a second chapter. Being an orange grower in the arid southern portion of California I failed to anticipate those questions which would come, from regions where irrigation is not quite considered a necessity, concerning cover crops in general and summer crops in particular.

Cover Crops and Irrigation.—Replying to this line of inquiry I may say that an orange grower places no dependence whatever upon rain, knowing that to be successful he must be prepared to irrigate, if need be, every month in the year. I should have stated that, whatever kind of fruit is being grown, the successful growth and handling of cover crops, either summer or winter, turns largely upon the use of water. If a winter crop be grown it must have moisture in the fall to start it and to keep it going until the winter rains come; and, in my own practice, it must be kept growing until it reaches comparative maturity in May. This means that when at last turned under it may have left the ground so dry that a copious irrigation is necessary. [Without irrigation the crop must be plowed in much earlier.—Editor.]

The questions that have come to me indicate that some fruit growers, even on elevated hillsides, are doing without irrigation where water might be had at reasonable cost. It is plain that, in some cases, the constant cultivation practiced to retain moisture in the soil has permitted unnecessary washing away of the fertile top soil by late spring and early fall rains—a loss which may be prevented, in large measure, by available water for irrigation.

It may sound a bit paradoxical to say that abundant water will prevent soil erosion—but the orange growers of the south know it to be a fact. A summer rain on a hillside where the soil is loose and dry is a misfortune to any orchardist. The citrus men earnestly hope that no rain will fall in their orchards after the cover crop is plowed under and until it is sowed again in the fall. They would vastly rather irrigate, to any extent made necessary by the cover crop, than to have heavy showers fall upon their bare and fertile slopes. I would advise every fruit grower who can install irrigation at reasonable cost to do so at once and charge the cost to the fertilizer account; for the value of the cover crop thereby made possible, both in its fertilizing value and in the protection which it affords to the soil against erosion, will more than repay the cost.

The Sweet Clovers. — Regarding the two varieties of Melilotus now being used it should be said that both may be sowed in the fall if desired. Melilotus indica, the winter growing, yellow flowered annual, may be sowed any time after September 15 and will grow continuously until maturity the following spring. Melilotus alba, the white flowered, summer-growing biennial, will germinate any time from early spring until late fall, but will make no appreciable growth during the winter. Experiments made in Highland indicate that whether sowed early or late it will bloom at about the same time the following summer. If a cover crop is desired which shall immediately cover the ground this fall and shall continue to grow through next summer, it has been suggested that the seed of the two varieties might be mixed and sowed together.

Ten pounds per acre of either variety will give a good stand, but fifteen pounds is better. To those who have wondered how the sudden and enormous demand for the seed is being met it should be explained that the seed of M. indica is a by-product of the grain fields—an interloper the seed of which has heretofore been blown out with the chaff. This also explains the cheapness of the seed, which sells from about five cents per pound upward, according to its freedom from mustard and other seeds. At this price it is immeasurably cheaper than vetch because of the larger number of seeds in a pound. Seed of Melilotus alba is another matter. So far as is known there is no way to obtain it as a by-product and its price therefore ranges upward from twenty-five cents per pound.

Indispensability of Humus. — In conclusion I repeat that humus in the soil is the chief need of California fruit growers today. I have no word of fault to find with the so-called commercial fertilizers in general—they are good in their place as supplementary to some bulky substance which will supply the needed humus. For the commercial fertilizer salesmen who have said to the fruit growers, "Beware of stable manure—it will make your oranges puffy," I have no such mild language. Stable manure and cover crops are today curing many orange trees of the dreaded and mysterious "mottled-leaf."

With all your getting, get humus; and, in Hoosier Schoolmaster phraseology, "git a-plenty while gittin'."

State May Inspect Parcels Post Packages

[Written for Pacific Rural Press.]

While heretofore California has spent much money in keeping out plant pestilences likely to affect our horticulture by being imported through the agency of common carriers, but has been defenseless against the importation of such insects and diseases through parcels post, she may now protect herself against the menace of the parcels post law.

We gladly commend the efficient work of the horticultural quarantine officers of the State and Nation in preventing the entrance of the numerous serious pests of the foreign countries so far kept out.

"That hereafter, when any State shall provide for terminal inspection of plants and plant products, and shall establish and maintain, at the sole expense of the State, such inspection at one or more places therein, the proper officials of said State may submit to the Secretary of Agriculture a list of plants and plant products and the plant pests transmitted thereby, that in the opinion of said officials should be subject to terminal inspection in order to prevent the introduction or dissemination in said State of pests injurious to agriculture. Upon his approval of said list, in whole or in part, the Secretary of Agriculture shall transmit the same to the Postmaster General, and thereafter all packages containing any plants or plant products named in said approved lists shall, upon payment of postage, be forwarded by the postmaster at the destination of said package to the proper State official at the nearest place where inspection is maintained. If the plant or plant products are found, upon inspection, to be free from injurious pests, or, if infected, shall be disinfected by said official, they shall, upon payment of postage, be returned to the postmaster at the place of inspection, to be forwarded to the person to whom they are addressed; but if found to be infected with injurious pests and incapable of satisfactory disiufection, the State Inspector shall so notify the postmaster at the place of inspection, who shall promptly notify the sender of said plants or plant products that they will be returned to him upon his request and at his expense, or, in default of such request, that they will be turned over to the State authorities for destruction.

"On and after the passage and approval of this Act it shall be unlawful for any person, firm, or corporation to deposit in the United States mails any package containing any plant or plant product addressed to any place within a State maintaining inspection thereof, as herein defined, without plainly marking the package so that its contents may be readily ascertained by an inspection of the outside thereof. Whoever shall fail to so mark said packages shall be punished by a fine of not more than one hundred dollars."

The plants and plant products subject to terminal inspection in the State of California are as follows:

"All florists' stock, trees, shrubs, vines, cuttings, grafts, scions, buds, fruit pits and other seeds of fruit and ornamental trees or shrubs, and other plants and plant products for propagation, except vegetable and flower seeds, bedding plants, and other herbaceous plants and roots; Provided, that this list of plants shall not apply to plants shipped under the certificate of the United States Department of Agriculture for propagation in the Plant Introduction and Field Station of the Department at Chico, California."

The place to which a postmaster in the State of California shall send for inspection, after receiving the required postage therefor, packages containing plants or plant products subject to terminal inspection, is the one in the list below which is nearest to his office:

Alturas, Auburn, Bakersfield, Colusa, El Centro, Eureka, Fresno, Hanford, Hollister, Independence, Lakeport, Los Angeles, Madera, Martinez, Marysville, Merced, Modesto, Napa, Nevada City, Oakland, Oroville, Placerville, Red Bluff, Redding, Redwood City, Riverside, Sacramento, Salinas, San Bernardino, San Diego, San Francisco, San Jose, Santa Ana, Santa Barbara, Santa Cruz, Santa Rosa, Stockton, Susanville, Ukiah, Ventura, Visalia, Willows, Woodland, Yreka, Yuba City.

How Fly-Paper Catches Citrus Scale.

R. H. Shoemaker, a prominent orange grower at Lindsay, has just completed an experiment with the Citricola scale that will be of interest. Two sheets of sticky fly-paper were hung on the side of a building 20 feet from the nearest tree and in a place where the scale was apparently scarce, only a few being found before the hatch. Four sheets were placed on a ladder among the trees in a part of the orchard where the scale was most apparent, the ladder being placed in cans of oil so that the pest could not climb if it wanted to.

The six sheets were sent to Prof. Ralph de Ong of the Citrus Experiment Station at Riverside, and the following communication gives the result of the test, which shows conclusively that the scale is spread by the wind soon after they are hatched as all scale found were very young:

"I have finished the count on the fly-paper with the following results: Two sheets on the barn, 39 to 32 scale, respectively. Paper from the grove: No. 1, 273 scale; No. 2, 234 scale; No. 3, 288 scale; No. 4, 156 scale. Sheet No. 4 had caught dust which caused a smaller number of scale to adhere. These results corresponded closely with black scale work.

"At Riverside sheets put in the grove always had over 200 young scale. This amounts to about two days' exposure in our work in the south, for after this period of time the paper is generally too dry to be of service."

Poor Disinfection Spreads Blight.

[Written for Pacific Rural Press.]

The pear blight fight is often lost on account of mistakes in disinfection, according to Prof. F. C. Reimer, who spoke at the recent fruit growers' convention. Corrosive sublimate carried in metal buckets of any sort is rendered useless in a few minutes. Wood is better than metal, but glass is still better. Applying the disinfectant to tools with pieces of collar pads, old rags, etc., quickly makes the corrosive sublimate harmless to bacteria on account of organic matter in the cloths. Sponges are best, but eventually glass-and-rubber atomizers will be used for disinfection with corrosive sublimate.

Resistant Varieties.—Our costly methods of fighting pear blight are almost unknown in Europe, largely because they use resistant varieties. Bartlett and Howell are the least resistant and should be topworked on trunks of other varieties such as Burkett, Surprise, Douglas, Warner, or others which are proved resistant.

They have about 500 varieties of 25 species at the Experiment Station in tests for blight resistance. No variety could resist inoculation in the tips of tender shoots, but many varieties were inoculated by putting a bacteria-laden drop of water on the bark and pricking through the drop into the bark 20 or 30 times. In the most resistant varieties bacteria would live a short time, but could not spread under mature bark. A. L. Wisker's commendation of Japanese stock for blight resistance was corroborated. Three weeks previously Prof. Reimer inoculated French and Japanese stock with blight bacteria, and on examination before coming to the convention 36 percent of the inoculation on French had already developed, but none on the Japanese. Examination of a good many hundred Japanese roots has never shown up woolly aphis which carry blight more or less.

AGRICULTURAL USES OF RADIUM.

We have seen many publications concerning the effect of radium upon plants which seem to be based upon actual experiments made by institutions and by private plant growers. The well known journal, the Scientific American of New York, has given much space to the subject and in one of its issues draws these conclusions:

"According to recent experiments in Europe, it appears that Radium is instrumental in preventing diseases of plants, whence is likely to arise a new application of this interesting element in agriculture. For several years, workers in agronomic science have been experimenting with the effect of Radium upon vegetation by mixing Radio-active substances with usual fertilizers. The numerous results obtained in this work show that most plants, either grain or flower, are remarkably stimulated and give a better yield both in size and quality, this being often seen in the fine and healthy color of the green plants or leaves.

Under these conditions it is not surprising that the plants are in better condition to resist attacks from the various sources of disease such as cause so much damage to crops, especially diseases known as cryptogamic, which arise from spores or mold. It seems that Radium is to act as a preventive for such diseases as wheat rust, rotting of potatoes, grape vine mildew and many others which cause such detriment to agriculture. Such results in the application of Radium in agriculture are likely to be far-reaching."

These conclusions from European researches seem to be supported by experiments in this country as reported by Dr. H. H. Rusby, who has a farm at Nutley, N. J., on which the tests were made.

Concerning the source of radium fertilizer this interesting statement is made:

"Radium is obtained from ore at a tremendous cost. It requires 400 tons of radium ore of the standard quality to yield a gram of radium, which could easily be carried on a man's thumbnail, the market price of which is $120,000, or $70,000,000 a pound. After all the possible radium is extracted from the ore, there still remains in the finely powdered residue some two or three milligrams of pure radium which would make the residue worth about $3000 per ton. It is this residue thinned down to the proper proportion of Radium, which, when mixed with fertilizer compounds or any suitable fertilizer, produces such wonderful results on plant life."

BLIGHT CUTTERS SCARCE.

[Written for Pacific Rural Press.]

"We have been able to find only one satisfactory man to cut out pear blight," says Horticultural Commissioner H. G. Kercheval of Sacramento county, commenting on the criticism that pear blight exists even where county ordinances empower the horticultural commissioners to clean out where orchardists do not.

They all recommend themselves, but they turn out either lazy or ignorant, or they skip blight spots, or what is worse, they won't disinfect thoroughly. Such men spread blight rather than cut it out.

The best way is to get the orchardist to do it himself. If we put incompetent men in his orchard and they spread the blight, he has a real grievance. The one man mentioned above is kept busy now on three ranches, receiving $2.50 per day and board.

LARGE TRIAL OF LIMESTONE.

Considerable acreage of the northern section of the Orland Federal irrigation project is being treated with lime to increase the fertility of the soil.

Many have had difficulty in breaking up the soil and keeping it from baking. Thirty-one carloads of crushed lime rock from the Redding quarries is now being spread on the soil.

It is estimated that two tons of crushed lime will keep an acre workable for five or six years. The lime is delivered at Orland for less than $5 a ton. Most of it is used in alfalfa fields. Howard Ball is using the lime exclusively for orchard and garden. Farm Adviser Heileman is watching the experiment closely. Those taking the lime are Supervisor Brown, S. F. Ehorn, Howard Ball, R. G. Weidemier, A. Heywood, M. S. Holt, R. E. Volkerts, M. Pederson and J. Hendrickson.

Practically the entire crop of over wintering capri figs in Tehama county dropped last winter. This necessitated getting insect-laden figs from scattered trees which had their fruit and from the old capri trees on the Vina Ranch, with which to pollenize the spring crop of capris.

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THE Panama Canal is working right even if most of the movement is on land and within the United States. On August 21 the overland carriers filed with the Interstate Commerce Commission application for permission to publish reduced west-bound rates on commodities that heretofore have moved from Eastern terminals to Pacific Coast territory via the Panama Canal. If these rates become effective it will enable California firms to obtain their shipments via the Sunset Route and other lines at practically the same rates as are in effect via the water route. The proposed reductions constitute another step in the transcontinental carriers to meet the canal competition. A short time ago a reduction was obtained in east-bound rates. The Santa Fe Railway has announced a reduction in rates to permit the shipment of grapes from California points to all Eastern points in lug boxes at the same rate as in closed packages at actual weight, not on an estimated box rate, subject to carload minimum of 26,000 pounds. This is to enable shippers to send East their second crop.

What Became of Black Eyes?

This is not the lament of a deserted lover nor is it a problem for an oculist. It is simply a desire to know beans, as the reader will discover.

To the Editor: What is the average annual production in California of Blackeye beans? What are they used for, and in what relative amounts? One authority advised me: "For human food, stock food and gun powder," but a letter from Du Pont people states they are not used at present for this purpose. I am satisfied very few are used in California for human consumption, and I think that only a small percentage of the crop is used for stock food. What becomes of them? They are a staple crop in this section. No one knows where they go. Can you inform me fully. If not, can you tell me where I can get the information. Surely some one knows.—Enquirer, San Joaquin county.

[Answered by Simsheimer & Co., S. F.]

To the Editor: In our opinion the annual production of Blackeye beans in California ranges from 150,000 to 250,000 sacks of 80 lbs. each. The production promises to be considerably larger this year, owing to the very large increase in the acreage planted, and as the condition of the growing crop is excellent at this time. It would be very difficult to make an estimate of what this year's production will be as a great deal of the land planted to Blackeyes this year has never been planted to beans before, and we do not know what the average yield to the acre will be on land of this kind.

California Blackeye beans are used principally for human food; the southern states being by far the largest consumers. This is really the only purpose for which Blackeye beans are used, speaking in a general way, although we believe that more of them are used as seed for a cover crop in the Southern states to enrich the soil.

New York state is also a considerable buyer of this article at times, but a good many of the beans shipped for New York are resold from there for export to Cuba and Porto Rico.

Although California Blackeyes are considerably superior in quality to those raised in other sections we have at times to meet competition of Southern Texas, Virginia and during various times, of Europe. The quantities raised in these districts are not large, but when prices are high here they are shipped from those districts to compete with California stock.

M. F. Amerine of Santa Clara county recently purchased 320 acres near Madera from a company of Los Angeles capitalists.

CANNING EGGPLANT AND CORN.

To the Editor: Will you give a method of canning eggplant? Also state whether the boiling point is hot enough for eggplant and for canning corn.—R. L.,Germantown.

[Answered by Prof. W. V. Cruess.]

The only recipe we have for the canning of eggplant reads as follows:

"Pare the eggplant; cut it in thin slices and drop into boiling water and let remain for 15 or 20 minutes; remove from the water and pack the slices in glass jars or tin cans; cover with boiling water. Cap, tip, and process No. 2 cans 60 minutes at 240 degrees, 10 pounds pressure."

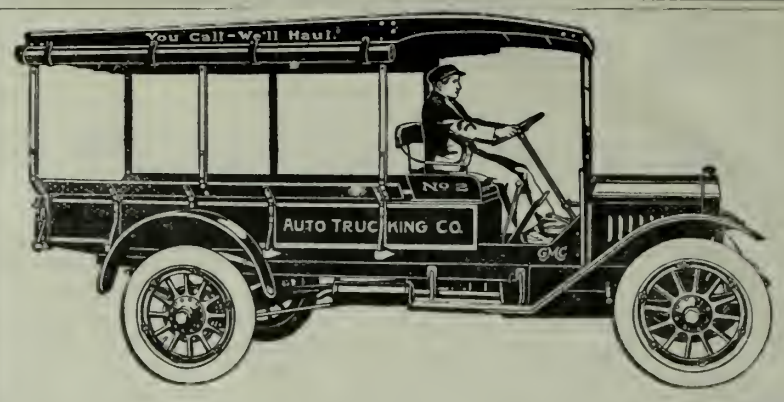
You will notice that a pressure of 10 pounds or a temperature of 240 degrees is recommended. This would mean that the eggplant is very difficult to sterilize, and that if a temperature of only 212 degrees is used it will be necessary to process on three successive days, probably for one hour at each processing. If this long boiling softens the eggplant too much, the time could probably be cut down somewhat at each boiling. A trial cook would have to be made to determine this point. The eggplant is canned in plain water according to this recipe. No doubt a light brine of salt and water would also serve the purpose.

Corn cannot be sterilized with uniform success at 212 degrees. However, often the corn will keep if three successive cooks of one and a half hours at 212 degrees Fahrenheit are used. If you use considerable brine on the corn the heat will penetrate more rapidly than if only a small amount of brine is used, and this aids in sterilizing. It is possible to sterilize corn by one cooking at 212 degrees for one hour if the corn is covered with tomato juice or if a considerable amount of the tomato pulp is mixed with the corn. The tomato juice furnishes the acid that the corn lacks. It is because corn is deficient in acid that it is so difficult to sterilize.

IRRIGATING POTATOES PAYS.

That it pays to irrigate potatoes when summer rainfall is scant is shown by experiments conducted by F. C. Reimer, superintendent of the Southern Oregon Experiment Station at Talent. Eight leading varieties were grown in as many rows and one-half of each row was irrigated, the other half not, but cultivated and sprayed in otherwise precisely the same way. When the potatoes were harvested and weighed it was found that the yield of the irrigated half was three times that of the unirrigated. The quality was equally good.

The Kings county honey crop is reported to be only half of normal.



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NEVADA NOTES.

To the Editor: George Barrett gives me this interesting statement: "I have raised potatoes in Mason Valley for several years. I have very good success, and at present grow only "Netted Gems" for the local seed market. These are the potatoes which grow the best in Mason Valley. I average seven and a half tons to the acre, and I think that exceedingly good. Every year I manure my ground thoroughly with well-rotted manure. When I plant I put four of five pieces in each hill—never using any blossom ends, and only the finest big potatoes are used.

"I always put my hills at least 36 inches apart, giving lots of room to irrigate and hill up without disturbing the vines. I irrigate little and often so as to keep the ground of a constant moisture, for dryness followed by sudden moisture starts new growth or lumps on sides of potatoes, which invariably hinders the growth of the main potato.

"After each irrigation I always go over the irrigation ditches and around the edges of the hills with a very fine cultivator so as to avoid any top crust from forming. You can't cultivate too often, but you can work too close.

About nematodes or eel worms. Well, I have found their presence depends on the soil. They are only found in heavy, low, poorly drained places. In the higher, well-drained sections, if too much irrigation has not been used, you never find them. To try this out, I have planted seed infested with eel worm, and where I did not irrigate too much, even in the low land, I never found an eel worm in the product.

"Sweet clover here in Mason Valley goes very well, and this year people are finding it a new industry. It not only grows wild, but is also grown for seed to ship East, to be planted for use as a fertilizer.

"There is interest manifested in alfalfa meal, and a possible market for Nevada alfalfa meal. Alfalfa crops are exceedingly good, especially the first crop in Nevada this year.

"Mason Valley is settling up fast and needs improvement in dairy stock. Almost every ranch has artesian water on it. One farmer has a 12-inch well that flows like a river. Constructive dairying is needed in Smith Valley. From about sixty ranches which comprise the settlement at Smith Valley they only succeed in turning out four tons of butter per month at the local creamery. Mr. Myers has managed the creamery for over two years. One-half of this butter does to San Francisco, and the other half is consumed locally." Charles Barnum.

ARSENATE OF LEAD FOR CORN-EAR WORMS.

[By M. L. Germain, President Germain Seed & Plant Company.]

The article to follow is one which I feel will be of general interest because it is so absolutely wonderful. No doubt you remember your grandfather complaining because so much of his sweet corn was wormy. As a matter of fact, this same condition has existed right up to date and many well versed in horticulture have claimed it impossible to control the corn pest because any remedy used would kill the corn silk, and that being destroyed would in turn kill the corn. So all of us have continued to eat corn from which the wormy end was cut. But during this season we have carried on some interesting experiments at our extensive trial grounds and the results fully justify our claiming that we have a product which when used on the corn will kill and control the corn-ear worm, and yet in no way does it injure the ear. At our experimental fields we planted a plot of 4 rows about 200 yards long. We treated one-half of this corn with the powder when just tasseling out. The other half we left untreated. We watched with interest its progress in growth and were anxious for the maturing. At last the time for inspection came and we could hardly believe what we saw. The corn which we treated was practically immune from the worm as fully 90 per cent was clean and free from worm, while that portion which was not treated was fully 95 per cent wormy. The corn that was treated was perfect in every way, the ears being fully matured and of a sweet flavor, while the untreated corn was badly infected with worms. The product we used to treat the corn with was a "patent arsenate of lead powder," and properly used it is absolutely safe. We have the results of this experiment in our windows at the present time, so any one interested can see for himself the work accomplished by the application of this efficient insecticide.

[We are glad to have this confirmation from California experience of the efficiency of this treatment for corn-ear worm, which we published in our issue of August 21, page 172. —Editors.]

HOW DEEP WILL GOPHERS GO?

To the Editor: I scarcely think that gophers can be walled out of a farm at a reasonable cost, as I know that if they meet an obstruction they will go down 4 or 5 feet to get below it.

A case in point is the basement under my house. The walls are 5 feet below and 1 foot above the surface, yet they burrow under the floor and frequently the basement is flooded when we irrigate the garden adjoining the house—the water running down their runways. I imagine that they could be cleaned out by using ferrets and a good rat dog or two, to catch them as they come to the surface.

Rats are exterminated in this way in England and I think the gophers could be caught in the same way.

San Jose. Sam'l Haigh.

[Ferrets were freely commended for this work many years ago and one man imported and bred them for the purpose, advertising their qualities to make sales. Nothing came of it then; the conclusion seeming to be that it was more trouble to fuss with the ferrets than to kill the gophers with traps, poison and water-flooding.—Editors.]

STOCKS FOR SUGAR PRUNE.

To the Editor: Concerning the inquiry of J. V. of Morgan Hill, I would say I have had experience with Sugar prunes continuously since their first appearance and can say they will not unite satisfactorily on peach stock. It is not a question of being "well done," but simply that in almost all cases the union is poor, the joint swollen and rough and it breaks off at almost no provocation. Strangely enough the Sugar prune makes as good a union on apricot as the French does on peach.

Cupertino. H. O. H. Shelley.

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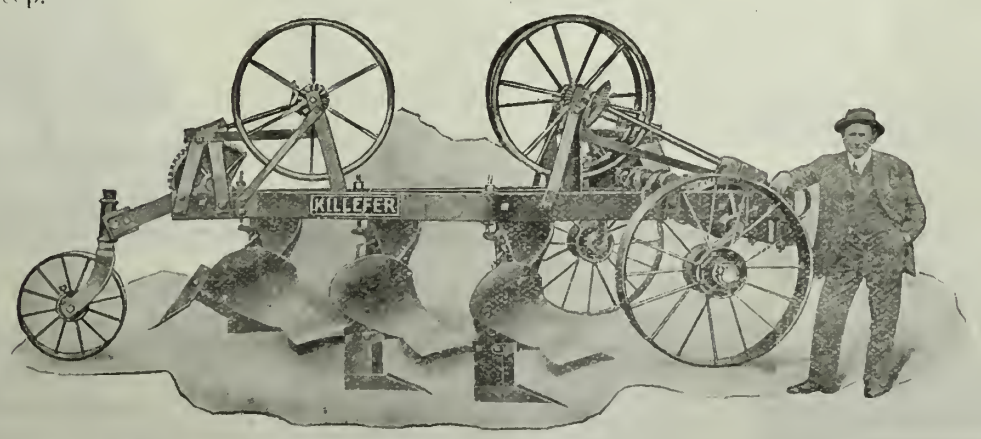
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PUTTING A CORE IN A DITCH BANK.

To the Editor: My experience with ditch banks may be of interest to E. L. (whose letter was in your issue of August 14) and others who have the same trouble with gophers.

On the outside of each bank where the slope of the ditch joins the level of the field I trimmed with a square shovel. I had a round-pointed shovel cut down to four inches wide, which is wide enough to get my foot in; then with this shovel and a mattock I dug a trench along the outside of the ditch about thirty inches deep. Part of the trenches I filled with crude oil—a layer of oil, then a layer of earth. The balance of the trenches I put in galvanized iron, the ends lapped over an inch or two, and then shoveled the earth back in.

The iron is the most satisfactory. It is easily and rapidly laid, and not too expensive, particularly if one can get second-hand stuff. I found four inches about the right width, as it is hard to dig deeper than thirty inches and gophers seldom work deeper. I put this in early in the fall; and after the gophers that may have been already in the ditch bank were killed and the old holes stopped I had almost no breaks, and those that come are usually near the top where they can be seen easily.

I do not think it would be necessary to dig a slot from the top of the bank to the bottom of the ditch, especially if the banks ever have to be plowed or scraped, and it takes so much more material.

Hughson. F. D. Keeney.

ENGINE MIXES POULTRY FEED.

[Written for Pacific Rural Press.]

Mixing poultry feed on a big ranch is a big job, but it is easy for T. B. Purvine of Petaluma, who uses a power mixer for his wet mash.

The machine is a semi-cylindrical metal tank hung horizontally on an axle shaft run by a line shaft from a 6 h. p. gas engine. The tank is 2x4 feet on the top view and about 2 feet deep. At different points around the circumference of the axle and projecting squarely from it are ten long, curved, paddle-ended fingers which reach to the bottom of the tank. The shaft runs continuously, having its speed reduced from the line shaft by reciprocal cog wheels.

The feed is dumped into the mixer from a platform behind. When it is sufficiently mixed, a little lift on the side of the tank tips it more than quarter way over so that the mixing paddles dump the feed onto a lower platform whence it is shoveled into the wagon to be hauled out to the hens.

An improvement might be made by having the outfit high enough to dump directly into the wagon.

The same line shaft which runs the mixer comes from the separator room to save elbow grease in separating the milk from Mr. Purvine's large purebred Jersey herd.

ENGINE WHICH NEEDS MUFFLING.

To the Editor: A neighbor has a large pumping plant close to his dividing line, and our house is 100 yards from it. But they seem to be so situated that the exhaust from his engine makes an echo in the house, such as to make it at times almost unendurable to my wife's nerves. When my neighbor is running his "popper" eight, ten, or twelve days one could almost imagine he was in the trenches and a whole battery turned on him.—Reader.

[Answered by Prof. J. B. Davidson, Davis.]

[To overcome the objectionable noise from the exhaust of a gas engine, it is necessary to provide some form of a muffler.

For large stationary gas engines one of the most practical mufflers is a cistern into which the exhaust may be led, and allowed to expand before being led to the open air. Such a cistern may well be made by digging a hole in the ground, and filling with large rock. The purpose of the rock is to break up and cool the blast of gases from the engine. Care should be used to see that there is plenty of opportunity for the gases to escape should unburned gases collect in the muffler or cistern and become ignited. The use of a muffler of this kind will almost entirely overcome the objectionable noise described.

It is to be suggested in this connection that if a neighbor insists upon operating a noisy gas engine, it may be considered a public nuisance, and legal authorities should be consulted in reference thereto.]

POWER ORCHARD SPRINKLING.

To the Editor: I intend installing a sprinkling system to irrigate a 40-acre orchard of oranges, olives and almonds. At present I am taking water through five two-inch connections from the water company's 6-inch pipe line, but the pressure is not great enough to run the sprinklers. My intention is to build a concrete reservoir close to the 6-inch pipe line; run my 2-inch pipe into it; lay a 4-inch pipe through the center of the 40 acres with laterals extending both ways to sprinklers. I intend to install a centrifugal pump and gas engine at reservoir and connect discharge to the 4-inch pipe. The water company will not allow me to connect suction to their 6-inch pipe. What size pump and engine shall I buy; how large a reservoir should I build and if reservoir is 6 ft. deep should the pump suction be level with top or bottom of reservoir? The 40 acres is almost square and slightly rolling; highest point about 15 feet higher than top of reservoir.—W. J. K., Fair Oaks.

[Answered by Prof. J. B. Davidson, University Farm.]

The foregoing enquiry does not furnish sufficient data for a complete answer, and certain assumptions must be made.

The pump and engine used will depend upon the amount of water pumped under the conditions specified, which in turn will depend upon the design of the sprinkling system. A four inch pipe, however, will carry with reasonable efficiency from 150 to 200 gallons of water per minute. If a static head of 20 feet



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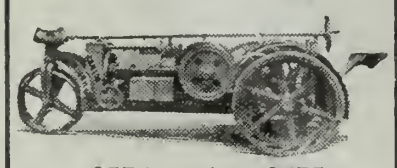
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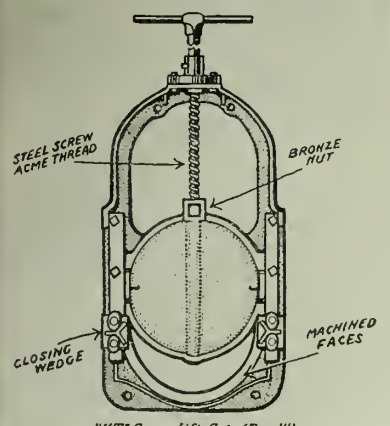
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be assumed, and a fraction of 25 feet estimated, and a nozzle pressure of 45 feet be assumed, making a total head of 90 feet, it will be found that a two inch horizontal centrifugal pump will furnish 150 gallons of water per minute, and consuming 11.25 horse power. This would mean that a 12 h.p. gasoline engine would be adequate if properly rated. The size of the reservoir will depend upon the discharge from the six-inch pipe.

Further information will be necessary to discuss the problem further.



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ENGINE RUNS SEVERAL LINE-SHAFTS.

[Written for Pacific Rural Press.]

Making one gas engine do all the repair work of the farm, and a lot more too, by the use of several line shafts all in one shop saves G. W. Gibson of Colusa county, secretary of the J. S. Gibson Co., a great deal of time running to town for repairs or working along with faulty machinery.

The first thing which his 8 h.p. engine does is to pump the water for domestic use into a tank, from the well so located that a wheel on the engine shaft runs a vertical belt to the centrifugal pump in the pit. This is arranged so that the pump is automatically stopped when the tank is full.

Close by the well on the outside of the building is a grindstone and some other equipment run by a shaft from the same engine, projecting through the walls.

Within the building, the first line shaft with which the engine is connected is 12 feet long and has seven wheels to connect it to several machines and to run the other line shafts in the shop.

A power drill is one of the machines run by the first line shaft; and an air pump which stores air at 160 pounds or greater pressure to inflate auto tires, of which Mr. Gibson has a great many.

The second line shaft runs a universal grinder to sharpen all the tools used on this farm of over 1200 acres.

Still another line shaft connected to the first one runs a big drill at four speeds. The biggest line shaft, however, is across the shop from the engine; and extends its full length. Vertical belts from it run a big milling machine, a big lathe, an emery wheel and buffer, and a hack saw rigged up to run by an eccentric wheel.

In the far corner of the shop is a forge by which the blacksmithing is done. It is supplied with air from a fan connected to the line shaft and also by a hand-driven fan.

Another wheel on the same line shaft works a power hammer under which the welding is done far more effectively than it could be by hand, because it can be done so quickly with so much power.

Mr. Gibson is rightly proud of his shop which, though expensive in first cost, saves far more than the interest and cost of up-keep.

BUILT-IN SEPARATOR ENGINE.

[Written for Pacific Rural Press.]

A separator run by a motor gas engine built into its frame under the milk tank is used by W. W. Freeman of Sonoma county. A little round belt runs from the engine over two pulleys to a horizontal wheel on the central shaft running through the bowl which separates the milk. To start the engine, they wind a small rope around a projection from the fly-wheel and then sit around until the milk is separated.

Grand Prizes

The International Jury of Awards of the Panama-Pacific International Exposition has awarded Grand Prizes for the Caterpillar Tractor and the Caterpillar Harvester. Only one Grand Prize is awarded in each class—the rating is made on the skill in invention, on the value to the world and to agriculture, and on similar points.

Send for Bulletin C 309, which gives full information about the Caterpillar Tractor, or ask for literature on our harvester line.



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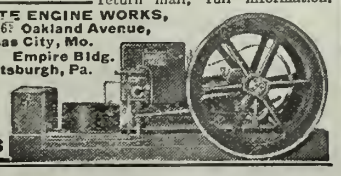
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General Agricultural Review.

CITRUS AND SEMI-TROPICAL.

Growers in the Pomona section have received $511,515.83 from the Pomona Growers' Exchange.

A. A. Bennett of Orange recently sold his 20-acre Valencia orchard to W. Meeker of San Francisco.

Arrangements are rapidly being made by the Northern Tulare County Citrus Association for the season's pack of oranges and lemons that will be shipped from Suitana.

An organization of citrus growers has been organized at Glendora to be known as the Glendora Hillside Growers. The following officers were elected for the first year: D. W. McDonald, president; C. A. Hammond, vice-president; and S. R. Pratt, secretary.

DECIDUOUS FRUITS.

The Beaumont Fruit Growers' Association of Riverside county is shipping Bartlett pears.

The dried fruit season at Hanford is in full swing now, and tons of peaches are being packed.

Live Oak orchards are suffering from a water table of 2½ to 3 feet under the surface.

The pear crop of the Paradise section of Butte county is reported to be about 20 per cent of normal this season.

The weekly payroll of the Porterville cannery totals $2500; the largest daily output so far has been 42,000 cans of peaches.

The harvesting of prunes has commenced in Anderson Valley, Shasta county; it is expected the crop will amount to about 1500 tons.

Five cars of Gravenstein apples were recently shipped to Buenos Aires, Argentine, S. A., by Garcia & Maggini of Sebastopol.

An independent Malaga grape packer of Dinuba was the subject of the first arrest for violation of the new fruit standardization law.

Sutter county growers have been irrigating peaches and prunes despite the props already required to prevent breaking.

That the white fly is prevalent in Marysville, although not to any serious extent, is the statement made by the County Horticultural Commissioner of Yuba County.

Drying peaches will pay the labor, keeping many employed, and will also pay something for the peaches, according to W. N. Woodson of Corning, who is drying his.

A movement has been started in Butte county to establish a shipping industry there for deciduous fruits, provided sufficient acreage can be secured to assure carload rates when the fruit comes into bearing.

On Aug. 23 a fire, probably of incendiary origin, threatened the large plant of the Central California Canneries company at Yuba City; but the prompt action of the night watchman prevented any damage.

GRAIN AND FIELD CROPS.

Sutter county is harvesting an immense crop of grain.

Eight cars of barley were shipped from Chowchilla the past week.

Beans up the river near Sacramento have set fine crops.

It is estimated that Canada will have about 175,000,000 bushels of available wheat this season.

Two to three cars of sweet potatoes are being shipped every day from Atwater.

It is stated that hay is as abundant this year in the western part of Nevada as in former years.

It is reported that the Saticoy lima bean crop will be about 20 per cent less than last season.

It is estimated that the grain crop on the west side of the San Joaquin is but half of normal this season.

The red spider is doing considerable damage to the bean crops of Sutter, Yuba, Sacramento and Yolo counties.

The Orland cannery recently commenced operations; tomatoes will be the principal product handled this season.

Up to Aug. 16, just two months from the date of the first shipment of the season, a total of 1001 cars of melons left Turlock.

C. A. Patrick of the Patrick-Rudy Seed Company of Kansas City has contracted for 250,000 pounds of Lassen county alfalfa seed.

It is expected that many hops will be shipped this year to Australia from the United States, on account of the drouth in the former country.

Great damage is reported to the south Texas rice crop; growers had expected one of the largest crops in years and it will be less than 50 percent of normal.

Geo. Marchbank, County Horticultural Commissioner of Madera county, reported recently that the blackeye and tepary bean crop was promising; rabbits injured the tepary, but not the blackeye beans.

A freak watermelon has been produced on the ranch of J. A. Meek of Stanislaus county. It weighs 43 pounds, is perfect in shape, and has imprinted on the dark green of its skin a full yellow moon and scores of stars.

GRAPES AND SMALL FRUITS.

Hanford raisin growers expect to commence harvesting the first week in September.

Malaga grapes from the San Joaquin Valley are reported to be selling for $1.35 to $1.80 a crate on the eastern markets.

A transcontinental rate on shipments of green grapes in lug boxes has been asked of the Interstate Commerce Commission.

The California Associated Raisin Company has sent out a request to growers not to pick their grapes until they test 17 per cent sugar.

Harvesting of one of the biggest Thompson seedless grape crops in years will shortly commence in Sutter and Yuba counties.

The California Associated Raisin Company's brand, "Sun Maid" raisins, will be sent out in new cartons with the picture of a girl's head set in the light of a rising sun.

On August 24, grape picking commenced in the Kerman district when the Pioneer Fruit Company opened its packing house to begin the run on Malagas.

It is said that the California Associated Raisin Company have commenced the publication of a magazine to be known as the "Sun-Maid Herald."

Experiments in Zante currant growing carried on near Lincoln, Placer county, have proved very successful; an effort is to be made by the State to interest growers in its extensive culture.

The Viticultural Commission has sent a representative among the grape growers of the San Joaquin Valley urging them to co-operate in keeping up the standard established in other years for table grape and raisin shipments.

Grapes on the Lucerne vineyard of Hanford will be made into raisins this season instead of being crushed for wine. The tonnage is expected to be between 1200 and 1500 tons and the crop is signed up with the California Associated Raisin Company.

In order to keep inferior raisins off the market, the California Associated Raisin Company has issued the statement that they will buy all Feherzago grapes at $10 per ton delivered at some station or winery which will be designated later.

The California Wine Association announce that they will not manufacture any wine this season; they have offered either to lease one of their plants to growers who wish to crush their own grapes or to make wine for growers provided the question of price and terms is left to the Association.

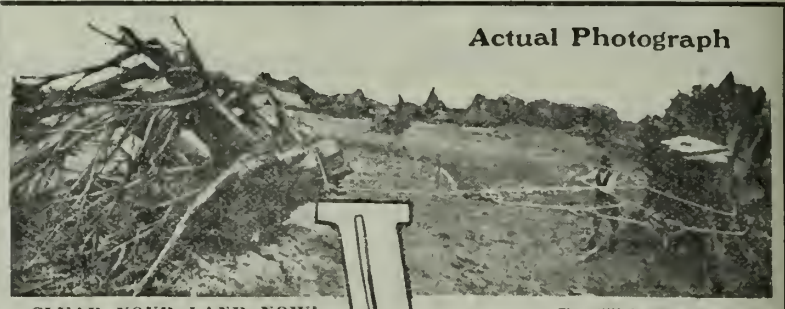
MISCELLANEOUS.

The Orange County Fair will be held the week of October 12 to 16.

San Joaquin Valley bee farmers expect a normal crop of honey this season.

November 23 has been set aside as National Pineapple Day at the Panama-Pacific Exposition.

Actual Photograph



CLEAR YOUR LAND NOW!

The "K" will do the work for you. Pulls the biggest, toughest stumps and trees. Gets them out clean—ROOTS AND ALL. Works anywhere, on hilly or level land. Weighs only 171 pounds, but pulls 48 tons. Easily operated and moved by one man.

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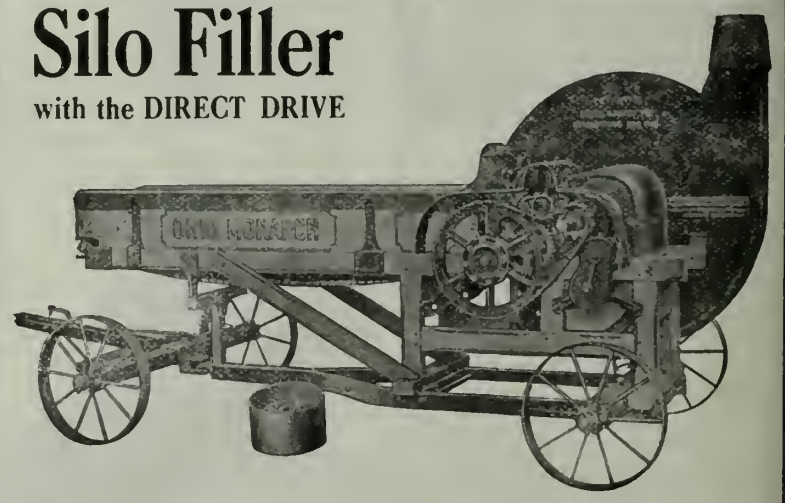
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DEPARTMENT A-5
433 California St. San Francisco, Cal.

The St. Helena Vintage Festival and Napa County Farm Bureau Fair will be held at St. Helena from Sept. 3 to 6.

An orchard experiment station in connection with the University of California is under consideration for Fair Oaks, Sacramento county.

Tent caterpillars are found in great numbers in Nevada county on the manzanita and birch bushes; growers fear for their fruit trees.

Geo. Wilson, graduate of the Agricultural Department of the University of California, has been appointed Assistant Farm Adviser of Humboldt county.

At a recent meeting of the Humboldt county Farm Bureau, a "Gopher Day" was suggested by one of the members for the purpose of cleaning the county of the pest.

A movement has been started to secure a permanent building for the big display of California products in the California Building at the Panama-Pacific Exposition.

It is estimated that there has been an increase of 50 per cent in the irrigated crops grown in the Oakdale Irrigation District this year over last.

Twelve cans of San Joaquin county delta peat soil have been shipped to Germany where a chemical analysis will be made by a prominent fertilizer firm, which will be of great value to delta land owners.

A Berkeley woman enjoys the distinction of being one of the few women to be employed as a lookout in the Forest Service. Her post is the station which overlooks the eastern portion of the Tahoe National Forest.

The International Irrigation Congress has been placed "on wheels" and will meet in Stockton September 13 and 14; in Fresno September 15 and 16; in Sacramento September 17 and 18, and in San Francisco September 20.

OLIVES AND NUTS.

The almond orchards of Merced county are reported to be suffering from the red spider pest.

The harvest of almonds in the Oakdale section of Stanislaus county has begun.

According to growers, the walnut crop of Santa Barbara county will be about three weeks earlier this season than usual.

A large concrete building will shortly be erected as an addition to the Ehmann Packing Company's plant at Oroville.

The Maywood Packing Co. of Corning is putting out 30,000 to 35,000 cartons of their new product, the dehydrated olive.

"California Garden Folwers," postpaid, $1.50. Pacific Rural Press.



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Stock Tanks & Silos. Lumber direct from the forest. A tank 4x3 ft., $6.50; 5x3 ft., $7.50; 6x3 ft., $9.00; 8x3 ft., $12.75. All other sizes in stock and equally cheap. I sell direct to the consumer. Trays, Box Shook. You will save not less than 10 per cent by trading with me. Doors, Windows, Mouldings. 35 yrs. in this business.

R. F. WILSON, STOCKTON, CAL.

ALFALFA REPLACING PEACHES.

To the Editor: I am taking out a block of 250 ten-year-old Muirs. Would it be best to plant the ground to alfalfa as soon as I can get it in shape? (I have a pumping plant handy.) Or to fertilize and then plant? Or to put in an early cover crop and wait till spring before putting in the alfalfa? I am lopping off the branches at the crotch. What is the easiest and cheapest way of getting out the stumps? If I gave the stumps a thorough soaking, would a medium weight pair of horses pull them out with block and tackle? Or would an 18 h.p. Yuba tractor pull them on direct pull?—L. D. B., Yuba City.

[We should get on the water, get out the peaches and get in the alfalfa this fall, so the latter can get a good start before frost. We see no reason to put money and time on the cover crop and if the land grows good big peach trees it is rich enough for alfalfa as it is. Manure would be good, of course, but probably you can use it to better advantage on some other crop. You could get the stumps out of wet ground with team and tackle if rigged right, but it would cost you more than to get a stump puller probably. You might try the tackle and see how it works; it depends of course on how strongly fixed the stumps are. The tractor ought to walk right away with them.—Editors.]

EGYPTIAN WHEAT AND CARROTS.

To the Editor: Will Egyptian wheat make good silage after the seed is ripe enough to harvest? The seedsmen from whom I bought my seed say that they are unable to inform me whether stock will eat the forage after the grain is ripened before cutting. The Egyptian wheat makes an immense amount of green fodder, as many as 50 or 60 stalks to the hill, and grows to a height of 7 or 8 feet. One pound of seed will be sufficient to plant an acre, dropping 4 or 5 seeds to a hill. We planted ours too close (24 in. by 36 in.). Three feet apart each way would have given a better stand. Most seedsmen say carrots can be sown any month in the year. That may be true on the coast, or north of San Francisco, but it won't answer here. We have tried to grow both beets and carrots during the summer months, but never succeeded until this season. By soaking the seed 24 hours and allowing it to start germination, and opening up the furrows in the dry soil, which must be well pulverized, we sowed the seed after drying it with fine sand so that it would not choke up the drill; covering it and rolling it well. We then with a common watering can watered the rows night and morning until they got the 2nd seed leaves. After this we irrigate and cultivate as usual. Watering is a little trouble, but in our soil it is necessary to keep the surface from baking hard as a brick. Of course this only applies to garden culture. Hand watering on a large acreage would be too expensive and too slow.

San Jose. Sam'l Haigh.

[We presume what you received as "Egyptian Wheat" is a sorghum. It is unfortunate that such a name was ever given it. If it is a sorghum then experience shows that the stalks can be successfully siloed after the grain is ripe enough to cut. Sorghum stalks are different from Indian corn stalks in this respect as they hold more moisture after the heads at the top have matured. Your account of starting carrots is very interesting.—Editors.]

Classified Advertisements.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

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WANTED—About seventy-five young men and women to enter the WESTERN NORMAL on August 30th, to prepare for teaching. Western Normal graduates secure and hold good positions. We assist graduates to secure good positions and promotion. We save you time and money. For information address, WESTERN NORMAL, J. R. HUMPHREYS, Principal, Stockton, Cal., Box 704.

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FOR SALE—Buffalo-Pitts Bean Thresher. A1 condition. Used part two seasons. Will sell fo less than half. S. E. L. Wharton, Tulare, Cal.

TRACTOR PLOWING by time or contract. Special plow for hard ground. J. W. Seitz, Mountain View Cal.

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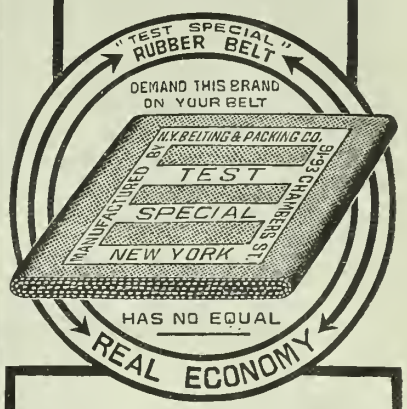
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California's Opportunity for Dairymen.

[Written for Pacific Rural Press.]

HOW GOOD IS OUR BUTTER?

Ten per cent of the approximately 200 butter makers in the State send cubes to the University Butter Scoring Contest held monthly. About 75 per cent of those who take part, pasteurize their cream, according to Prof. L. M. Davis of the University Farm, who has charge of the contest.

Each butter maker is provided a blank to be filled out and sent in with the cube, telling all the necessary details regarding the cream and the method of manufacture. The cubes are simply numbered so that no one knows the maker until the judges have announced their criticisms and score; then Prof. Davis compares the score and the judges' criticisms with the blanks filled out by the butter maker and sends him a personal letter of suggestions and criticisms.

Scores of less than 90 are not published, nor are others if requested to be withheld. The results are sent to participants and to dairy papers.

One of the strong points brought out in the last contest was the fact that butter makers cannot make from poor cream a product that will compete in the markets with eastern butter or Australian butter. This was evidenced by the fact that only one entry was above 33 points, which is the standard for extras, although it is generally assumed that butter makers entering the contest send the best butter they are able to make.

One creameryman whose score was below 90 answered the letter of criticism, thanking Prof. Davis for withholding his score and saying that he had done everything he knew how to get better cream. How can this be done?

Draft Horse Breeders to Meet.

[Written for Pacific Rural Press.]

With the object in view of entertaining the largest gathering of western and eastern horsemen ever held in California, the directors of the California Draft Horse Breeders' Ass'n are busily engaged completing the final arrangements for their annual meeting to be held at the Panama-Pacific Exposition October 1.

At a directors' meeting held in San Francisco on August 20, the progress of the program committee was reported, Secretary J. I. Thompson reporting that he had received word from several prominent horsemen in the East to the effect that they would be in San Francisco on that date and be glad to act as speakers.

It was definitely decided at the meeting to hold a business meeting of the association at the Livestock Convention Hall in the afternoon, where election of officers and other business will be transacted, deferring the program till evening, when a banquet will be served, probably on the Exposition grounds.

Coming as it does at the time of the Exposition's draft horse show, it is expected that practically every horse breeder will be present.

In line with their policy of aiding in every way possible the colt shows which are to be held in the State this fall, it was decided to give a silver medal to the grand champion foal at all recognized shows, and also give a gold medal at next year's State Fair to the grand champion foal of the State selected from the winners of silver medals at the local colt shows this year. It is also expected that a suitable cash prize will be provided for by the State Agricultural Society for this class at future State Fairs, thus encouraging farmers to show at both the local and State shows.

J. I. Thompson reported that he has been advised by the Farm Advisers in San Joaquin, Napa, Alameda, and Ventura counties that colt shows will be held in each county this fall. This with the Solano county show will insure good representation at next year's State Fair, and establish the colt show in California on a permanent basis.

Active interest is being shown in all quarters regarding the "better horse" and this was reflected in the optimistic spirit of the meeting. A number of very important measures are to be taken up by the Association this fall, which will, it is thought, do much toward advancing the horse industry of the State.

The program for the annual meeting will be completed in a short time and will appear in a later issue of this paper.

KILLING ALFALFA DODDER.

To the Editor: Will you kindly inform me the best method of destroying dodder? I have quite a bit and I don't seem to be able to get rid of it.—C. F., Tulare.

[We have to answer this question every few months, but this is probably unavoidable because we have so many "new subscribers" coming all the time. Dodder is a parasitic plant which starts from a seed brought in, generally, with the alfalfa seed. As soon as this little seedling starting from the ground gets high enough to grasp and entwine an alfalfa stem, it grows into this stem, sending root-like suckers into the tissue of the stem. As soon as it has done this the part near the ground dies and disappears. Dodder is an annual—that is, it has to start every year from the seeds which are freely dropped by the older plants which are attached to the alfalfa. Anything which will prevent its going to seed will kill it off in a year. The usual mowings for hay are too far apart, because the plant blooms and forms seeds as it grows; and by the time the alfalfa is ready to cut some of the lower blooms may have formed seed which will be ripe enough to germinate when dried with the hay and dropped to the ground as the hay is gathered up. Dodder can be prevented from blooming and seeding by pasturing close all summer. Another way to kill it off is by burning before the seed ripens. This is sometimes done by spreading straw and burning, but it is easier on a small patch to go over it with a plumber's gasoline torch, burning all you can see of it. Remember, if you prevent blooming, the dodder will disappear.]

SHEEP AND WOOL INVESTIGATORS MEET.

[Written for the Pacific Rural Press by Prof. R. F. Miller.]

On August 9th to 11th a conference of sheep and wool investigators of Western Agricultural Colleges was held on the Panama-Pacific Exposition Grounds at San Francisco. The following colleges were represented: J. A. Hill, Wyoming; R. R. Dodderidge, Montana; J. T. Cain, Utah; F. D. Wilson, Nevada; R. F. Miller, California, and J. M. Jones, Texas.

The improved system of preparing wool for market was discussed, sheep problems of the different states were considered, and the wool exhibits of foreign nations and the various states were inspected.

Mr. W. T. Ritch of Salt Lake City was present and gave a review of what had been done under the improved system, or the skirting and classing of fleeces, at the Bitter Creek Shed, Wyoming. Professor Hill also told of the success at the Swastika ranch at Laramie, Wyoming.

The general system was highly endorsed by the men present. It is operated on a sound business basis, the wool is put up clean, is classed and is packed in uniform bales, the grower becomes familiar with the grade of wool he is producing, thereby encouraging breeding for same, and last, but not least, the sheep are easily and quietly handled.

The financial advantage is certain to follow as soon as the market becomes adjusted to the new method of marketing. For illustration, we only need to turn to Australasia, the greatest wool-producing country in the world, practically the same size as the United States, and running nearly twice as many sheep.

An association was formed named "The Range Wool Improvement Association." The advisory committee is to be composed of one member of the Animal Husbandry Division of each of the Western Agricultural Colleges represented; also one member to act as state instructor who is devoting time to sheep and wool. In this way it is planned to conduct an educational campaign, Mr. Ritch being the official lecturer, to bring this improved system thoroughly before the sheep men of each state. If it meets with approval, it is hoped to construct two modern shearing sheds in each state to afford sufficient work for a trained crew for at least four months.

The wool exhibits at the Exposition proved very instructive. In the Australian building, among other exhibits, wool stands out prominent. A striking display of the Australian Merino may be seen here. In the Palace of Agriculture, New Zealand has spared no means in arranging a very attractive display, characterized by the selection of crossbred fleeces. Lincoln and Romney fleeces are also well represented and a collection of scoured bellies, pieces and and pulled wool is displayed.

The Argentine Republic, though not quite as extensive, shows a collection of wools native to that country, mainly Lincoln-Rambouillet cross. Full information is given with each fleece regarding the breed, shrinkage, etc.

The states of Ohio and Nevada also have quite attractive exhibits.

University Farm, Davis.

A farm bureau fair is planned for Oakhurst, Madera county, September 27 under the auspices of the five units of the Farm Bureau.

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Woodland, Cal.

Dried Beet Pulp for Dairy Cattle.

To the Editor: My cow declines to eat beet pulp, either dry or soaked. I persuade her by mixing cocoanut meal with it, one part cocoanut to two parts beet, soaked. What is the feeding value of beet pulp compared with bran or alfalfa meal?—G. H. B., Cupertino, Cal.

[Answered by Prof. F. W. Woll, University Farm, Davis, Cal.]

Dried beet pulp is not particularly palatable feed, but it does not take dairy cows long to get accustomed to it and they will eat large amounts right along when once started on this feed. Some cows take readily to it from the beginning, while others do not; this may happen with nearly all kinds of feed and is nothing against the feed. The best way to teach cows to eat pulp is to feed a little at first with other concentrates, and gradually increase the allowance until the grain mixture decided upon has been reached. Some farmers prefer feeding the pulp wet, and some feed it dry. It does not make much difference how it is fed, although most cows take to it more readily when it is fed wet than when dry and will eat larger quantities of it in the former form.

Cocoanut meal is all right to mix with the pulp. A mixture of barley and cocoanut meal, or barley and mill feed, is better, since several feeds make a more appetizing grain mixture than one or two and will favor a high production. The reason why the correspondent did not have better success in getting his cow to eat the pulp is probably that she did not need much more feed than she was furnished in the rough-age fed, or he did not try her long enough. Good dairy cows will always respond to grain feeding and take to a mixture containing beet pulp as readily as other grain mixtures.

The fact that beet pulp, as a general rule, is a relatively cheap feed on the Coast makes it a very desirable component of our dairy rations. It contains no injurious component or chemical substances that would render it undesirable as a dairy feed or a component of the grain ration for dairy cows. Its feeding value may be considered nearly equal to that of wheat bran and somewhat higher than that of alfalfa meal, ton for ton.

HOG FEEDING PROBLEMS.

To the Editor: Will wild parsnips poison hogs? Will hogs take anthrax? What are the relative feeding values of corn and sugar beets, half sugar and half mangel?—C. A. T., Bishop, Cal.

[Answered by Prof. F. W. Woll, University Farm, Davis, Cal.]

While parsnips are probably not poisonous to any of the farm animals, at least there is no evidence that they are, cowbane or water hemlock, which is sometimes incorrectly called wild parsnips, is exceedingly poisonous to stock. Hogs would not be likely to eat it, but they might, and poisoning would doubtless result in that case.

I am informed by our veterinary division that hogs are subject to attacks of anthrax. It is sometimes called quinsy by farmers as one of the first symptoms is a swelling of the throat. The disease is, however, not common in hogs, as is evidenced from the fact that no mention is made of it in the literature on the subject of swine diseases to which I have access.

I take it that the last inquiry refers to the grain of Indian corn and not to corn fodder or green corn. In so far as two feeds of such different character as sugar beets and corn can be compared, I would say that it would take about 6 to 7 tons of sugar beets to equal a ton of corn or other cereals (except oats) in feeding value. If it is intended, for instance, to partly replace corn in a mixed ration with beets, the production will not be affected appreciably when the substitution is made in the ratio of 1:6, by weight. This has been thoroughly tried out in a large number of feeding experiments and is in accord with our general knowledge of the contents of valuable nutrients in these feeds.

The different varieties of mangels vary greatly in their content of dry matter; some contain nearly as much dry substance as sugar beets, while others contain only one-half as much. The average water content of half-sugar mangels appears to be about 87 per cent, while good sugar beets will contain 80 to 85 per cent of water (15 to 20 per cent of dry substance).

TEST CREAM BEFORE SHIPPING.

[Written for Pacific Rural Press.]

"Why is it that my cream test is nearly 40 per cent sometimes and the next time below 30 per cent?" said a dairyman recently. "I have the same cows, the same feed, the same adjustments on the separator, and I try to run it at the same speed."

The best suggestion we could make was either to adjust the matter by conference with the creameryman, or, with far more satisfaction, get a small Babcock tester and know whether such variation existed. Aside from the more important use of the tester in checking up the value of each cow separately, he might save the cost in a year on the cream test on which the price is based.

It was pointed out that the creameryman who knows there is a tester on the ranch, is a little more careful to be exact in his test at the factory.

A Babcock tester to be run by hand, testing four samples at once of either milk or cream may be obtained from our dairy supply advertisers for $7.00. The boys can run it and get as accurate a test as the most expensive apparatus, and it will make them more interested in the milking.

PURE-BRED HOG PRICES.

[Written for Pacific Rural Press.]

"Good high-grade pigs are all right if they are raised for nothing but butchering, but purebreds are just as good as the best grades for the block, and with registered purebreds there is always a chance for a premium as breeding stock over the price that would be paid for butchering.

"Instead of selling at 6½ cents, the purebreds may often be sold at a price that will make the whole herd average as much as 20 cents per pound," says E. C. Rand of Sonoma county.

The prevalence of hog cholera around Modesto is reported.

NOT ONE, BUT BOTH, FOR COWS.

To the Editor: Will you kindly let me know through your columns which would be the better winter feed for dairy cows: rye or vetch, and what variety and the one making the quickest feed?—F. R., Turlock.

[They are better together than either one is separately, both for good growth, ease of handling and balanced feed. Either the common vetch or the hairy vetch sown as soon as the ground is well wet down, with either rye or oats, ought to fix you well while grass or alfalfa are coming. Rye and hairy vetch are the better growers during low temperature.—Editors.]

TESTING NOT DANGEROUS.

To the Editor: Would you be kind enough to inform me if there is any truth in the statement that a cow that is with calf when tested would likely lose the calf? Is the testing process in any way detrimental to a cow?—H. W., Sonoma.

[There is no danger of abortion from testing cows for tuberculosis if the test is properly administered. When cows are in this condition the Intradermal test should be used.]

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LOSSES SURELY PREVENTED by Cutter's Blackleg Pills. Low-priced, fresh, reliable; preferred by Western stockmen because they protect where other vaccines fail. Write for booklet and testimonials.
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Use any injector, but Cutter's best.
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GRANDSONS OF TILLY ALCARTRA
At Prices within Reach of Every Breeder and Dairyman.



A Grandson of Tilly Alcartra.

We have several splendid grandsons of this now famous cow which we can deliver to you at prices which will suit the pocketbooks of every dairyman wishing to improve the quality of his herd, whether it be a grade or pure-bred herd. These bulls are sired by our herd bull, Prince Alcartra Korndyke and out of A. R. O. cows, and are the only living grandsons of a cow having a record of over 30,000 pounds of milk in a year. Such an opportunity for increasing production has never been offered DAIRYMEN AND BREEDERS in California, price and quality considered. Buy one of these bulls and solve your low production problem. Write

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Shropshires sired by rams imported by me from England in 1911.

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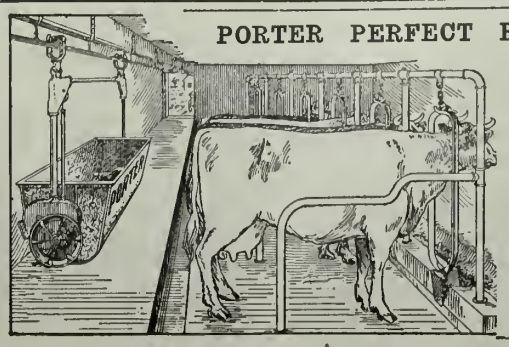
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By using a Porter Litter Carrier. It works on our Columbian Steel track, is easy-running and will carry heavy loads. Our Perfect Cow Stanchions line up the cows without interfering with their comfort.
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We also make the celebrated Porter Hay Carriers and Barn Door Hangers. Send for catalog of our Perfect Barn Equipment.
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With the Live Stock Men.

DAIRYING.

G. G. Wenger of Modesto is getting a nice start in Holsteins and Berkshires.

A. D. Medford of Salida sold 4 registered Holsteins to Jas. Gibson of Modesto.

Hartman of Ripon is shipping sanitary milk to Crocker where it is sold for 10 cents a quart.

The Jersey cow, Idle Fern Beauty, belonging to J. J. De La Mater of Stanislaus county, produced 573 pounds butter in 10 months.

Dos Rios Ranch, Modesto, recently shipped a yearling registered Jersey heifer to Thos. Allen of Riverside. The price paid was $200.

Murry & Jones of Ceres, breeders of Jersey cattle, have a fine bunch of stock. They expect to do some official testing in the near future.

R. W. Stellar, manager of the Merced Ranch, Modesto, is planning to go East after Holsteins just as soon as the quarantine is lifted.

F. D. Keeny of Hughson has ordered a Jersey bull from the Hood Farms, Mass., which will be shipped as soon as the quarantine is lifted.

The J. S. Gibson Company of Williams sold the Holstein bull, Clifden Jetze Oakwood, on August 25, to Roeber Bros. of Delevan.

A tract of 1500 acres in Newman which was put under irirgation last year by the Simon-Newman Company is now being subdivided into dairy farms.

Golden Ladd Opa, belonging to Jas. A. Goodall of Turlock, just completed an official test. In 365 days she made 541 pounds butter, figuring 85 per cent fat.

J. A. Pelander of Salida is completing a new barn which with equipment will cost him $2,000. It has stalls for 14 cows, 6 box stalls, and now holds 45 tons of hay.

A most precocious calf is reported to be owned by Alfred Conner of Newburgh, N. Y.; at the age of seven days it gave milk and now at the age of a month it is being milked daily.

Having won prizes in nearly every class, the famous Morris & Sons' herd of cows are now practically debarred from further competition in the Holstein-Friesian Association of America.

W. J. Hackett of Ceres, Jersey breeder, has ten head on official test. Greys Kings Regina, daughter of Golden Tina, has just completed a year's test with 310 pounds fat from 7178 pounds milk.

E. O. McClure, Holstein breeder of Modesto, has a son of King of the Pontiacs as herd sire. All the cows and heifers are being given A. R. O. records, one cow recently making 28.5 pounds butter in 7 days.

C. J. Outland, Modesto, recently sold to K. W. Abbott of Milpitas four choice cows. Mr. Abbott has placed them on official test; and one, Yetzafha of Riverside, is making over 1½ pounds butter daily.

F. D. Wulff of Modesto owns a registered Jersey, Noble Warder's Bessie, that is the youngest cow on record. She calved at the age of one year and 18 days; she is now milking 16 pounds daily.

Dairymen of Tillamook county, Ore., recently made a test to see which was the better cheese breed, the Jerseys or Holsteins. The test showed no difference, the average cow of each breed yielding 3.3 pounds.

J. M. Campbell of Escalon will erect on his 40-acre ranch a new dairy barn. Mr. Campbell is a new man in the Holstein game. His herd is headed by Torence Korndyke and out of 28½ pound three-year-old who is half sister to Tilly Alcartra.

A syndicate of farmers is forming near Corning to buy the Jersey bull, Torono of Ferndale, bred at the Hood Farms in Massachusetts and now owned by F. L. Cook of Corning, whose entire herd of young stock except three consists of this bull's daughters. Mr. Cook desires to keep the bull in his vicinity in order to build up the dairying there and get a creamery at Corning.

Grandsons of the recent world's champion cow, Tilly Alcartra, sold by the J. S. Gibson Company of Williams during the past season are named below. The sire of these calves is Prince Alcartra Korndyke, "the only sire to have a 31-pound sire and to have a dam (Tilly Alcartra) with a sire, grandsire, great grandsire, and great-great grandsire to form a direct chain of four generations each of which have a 31-pound daughter." Tilly Alcartra's latest records are 30,452 pounds of milk in a year; 3201.7 pounds in 30 days; 783.7 in 7 days; 1189 pounds of butter in a year; 121.11 pounds in 30 days; and 32.22 pounds in 7 days, the short records having been made in the first freshening after her great yearly record. Juliana Matter Clay Alcartra to Alan Milnes of Riverdale; Calamity Wayne Alcartra to A. H. Eager of Red Bluff; Korndyke Acme Alcartra to G. W. Locke & Son of Sacramento; Alcartra Oleander Zwartbak to Mrs. M. H. Huff of Rocklin; Prince Jetze Alcartra to

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DAIRY CATTLE.

DISPERSION SALE OF HOLSTEIN HERD—52 Head of Registered Holstein-Friesians—26 cows of excellent blood lines of high record cows. 4 heifers, 2 year olds, bred. 10 heifers, four to fourteen months old. 8 service bulls of best families. 6 bull calves, one to ten months old. The sire of this herd is **Artis Pontiac Tekstra**, a grandson of **King of the Pontiacs**, also, a grandson of **Pontiac Artis**, one of the best of 116 A. R. O. daugbters of Hengerveld Do Kol. Prices on application.

350 Head of Grade Holsteins—250 cows, $75 to $125. 60 heifers, two years old, $65 and up. 40 heifers, five months to one year. The cows and heifers are bred to Holstein-Friesian bulls of the best families. Miller & Lux, Inc., Dos Palos, Cal.

INCREASE QUANTITY AND IMPROVE QUALITY of your milk by using a **Guernsey Sire.** We can furnish choice imported or home-bred bulls from big record cows at attractive prices. **Imp. Itchen May King 25174,** the best living May Rose bull, heads the berd. See bim and his calves at San Francisco Exposition. Come and see our **Guernseys,** or send for price list. **Edgemoor Farm,** Santee, California. Walter H. Dupee, Proprietor.

HOLSTEIN BULL, 16 months old—Grandson of the King of the Pontiacs. Dam A. R. O. cow, produced 807.87 lbs. of butter in 10 months. Price $350. Write for pedigree. J. A. Pelanda, Modesto.

WANTED—About 10 high-grade Holstein cows, sold subject to healtb test and to come fresh in about two months. Give age and price and what they are bred to. H. G. Wendt, Fallon, Nevada.

HOLSTEIN BULLS—Pure-bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

FOR SALE—About 80 bead of fine dairy belfers from 8 month to 2½ years old. Grade Jersey and Holstein. J. S. Smith, 226 Alameda Ave., San Jose, Cal.

REGISTERED HOLSTEINS—Young bulls sired by King of Riverside and Lakeside Model Prince from A. R. O. fame. J. R. Harlan Co., Woodland.

FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

AYRSHIRES—For sale, fine young bulls from Imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

THREE REGISTERED JERSEY BULLS—Dams big producers. Sires dam 691 lbs. butter cow. Prices right. C. D. Hayworth, Modesto, Cal.

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REGISTERED HOLSTEIN BULLS from A. R. O. dams. J. W. Benoit, R. 2, Modesto, Cal.

REGISTERED JERSEY BULLS from register of merit cows. D. F. Conant, R. 5, Modesto.

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REGISTERED JERSEY CATTLE—Young stock for sale. W. J. Hackett, Breeder, Ceres, Cal.

SUNNYSIDE HERD—Registered Holstein cattle. R. F. Guerin, R. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma.

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SWINE.

I HAVE ANOTHER CROP of seventy-five bead of **Big Type Poland China Boars,** born in February, sired by **Iowa Wonder,** who is a son of **A Wonder, the Greatest Poland China Boar, Living or Dead. Iowa Wonder** is in the **1000 lbs. class.** One of bis sons from one of my good registered sows should make you money. I will sell the best first. On account of being overstocked will sell tbem at $20 each while they last, but they will not last long at this price, so act quick if you want an extra good boar for little money. Geo. A. Smith, Corcoran, Cal.

BILLIKEN HERD of pedigreed O. I. C. Swine; weaned pigs of both sexes for immediate shinment; pairs and trios mated, not akin. All from big type stock of extra heavy bone. Immunized against hog cholera, crated and shipped free. Write for descriptive circular and price list. C. B. Cunningham, Mills, Sacramento County, California.

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BLATCHFORD'S PIG MEAL weans easily and safely; no trouble; no milk. Write for free folder. "The Safety Route from Pighood to Porkage." Coulson Co., Petaluma.

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REGISTERED PUREBRED BERKSHIRE PIGS—(Weanlings) both sexes Reasonable prices. Write for full information. J. E. Hall, Sebastopol, Cal.

REGISTERED BERKSHIRES—Fine 3 to 8 months boars by Panama Lee, Gold Medal winner at 1914 State Fair. C. E. Barrows, Los Molinos, Cal.

DEL DAYO FARM—(Old Haggin Bottom Ranch)—Breeders of Registered Berkshires, both sexes for sale. P. O. Box 1140, Sacramento, Cal.

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REGISTERED BERKSHIRE SOWS and their weanlings. Quality, health and vigor. Boars, all ages. F. H. Wilson, Turlock, Cal.

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FINE REGISTERED BERKSHIRE PIGS—Write or call Greenwood Ranch, R. D., Brentwood, Cal.

DUROC-JERSEYS—Registered boars and gilts. John Decker & Sons, Turlock.

REGISTERED POLAND-CHINA HOGS—J. W. Wakefield, Acampo.

POLAND-CHINAS — Prize-winners. Satisfaction or money back. Geo. V. Beckman, Lodi, Cal.

REGISTERED DUROC-JERSEY SWINE—Las Paderas Ranch, El Cajon, Cal. M. S. Allen, Manager.

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DUROC BOARS of Advancer and Chief. Breeding guaranteed. E. C. Curtis Napa.

REGISTERED POLAND-CHINAS and Duroc Jerseys. T. H. Beckman, Lodi, Cal.

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REGISTERED BERKSHIRES—Young stock for sale F. W. White, Elk Grove, Cal.

CHAS. GOODMAN, Breeder of high-class Berkshire Swine. Williams, Cal.

POLAND CHINA HOGS—Registered. R. J. Miller Llewellyn Ranch, Lathrop.

REGISTERED POLAND-CHINA HOGS—J. A. Clark. R. 4, Lodi, Cal.

REGISTERED O. I. C. SWINE—C. D. CONWAY, Lairport, Cal.

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SHEEP.

FRANK MEACHAM, Petaluma, California.—Breeder Shropshire, Rambouillets, American Merinos, both sexes. Take electric car at Santa Rosa or Petaluma for Live Oak.

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MISCELLANEOUS.

ALFALFA SEED—If you are going to be in the market for Alfalfa Seed, get into communication with us at once. Will soon be harvesting the new crop. Booking orders now. Write or wire. V. A. Peterson Alfalfa Seed Co., Arbuckle, Calif.

FOR SALE—20 bead grade Ayrshire cows bred to registered bull of best quality. Wyndham Dairy, Redding, Cal.

BREEDER of Registered Holsteins and Poland China Swine. E. E. Freeman, R. 5, Modesto, Cal.

J. M. Youtsler of El Centro; Glenwood Alcartra Korndyke to H. M. Woodward of Los Molinos; Juliana King Alcartra to E. E. Gerry of Gridley; Aaggie Acme Alcartra to Frank Packer of Chico.

HORSES AND SWINE.

C. E. Barrows of Los Molinos plans to take seven Berkshires to the Panama-Pacific Exposition.

Harry Chamberlin of Live Oak has a sow that has had 12 pigs in each of her past three litters.

Milo, alfalfa, and hogs beat any other kind of farming, according to J. O. Hartman of Live Oak.

Poland Chinas have been fattened to 300 pounds at 8 months by S. F. Williams of Chico.

S. F. Williams of Chico expects to show several fine Jerseys at the Panama-Pacific Exposition.

Dr. Spaulding of Turlock, an old Illinois Poland-China breeder, is getting back into the game again.

S. F. Wiliams of Chico reports having sold over 300 Poland-Chinas the past four years.

Teedom & Son of Delhi are getting into the Duroc game. They plan to hold a hog sale next spring.

Ed. Johnson of Turlock is having more orders come in for his Durocs than he can fill.

Calla Grove Farm, Ripon, received a shipment of Berkshire gilts from A. B. Hampshire last week.

T. D. Collins, Denair, says the only trouble raising Duroc-Jersey Hogs is to raise them fast enough to supply the demand.

Leland Lucas took first prize in the pig fattening contest recently held hy the agricultural class of the Visalia High School.

The Stanford Vina Ranch is remodeling 50 of the old race-horse box stalls for farrowing pens which will be 10x16 feet.

T. R. Nickalls of Los Molinos expects to make much better money by combining with a neighbor to make carload shipments of uniform hogs.

John Daggs of Modesto, the Duroc-Jersey man, is receiving numerous inquiries in every mail regarding his hogs. He reports sales good.

Fattening 87 hogs from an average of 167.09 pounds June 7, to 188.85 June 15 was accomplished this summer at the Stanford Vina Ranch.

Schaffer & Renshaw of Atwater are going in for Berkshires on an extensive scale on their 240-acre ranch on the Merced river near Arundel.

Geo. Wingfield, Reno, Nevada, recently sent two agents to England for the purpose of purchasing some of the equine bluebloods of that country.

French army officers at Philadelphia recently commenced the examination of 41,000 horses assembled there before shipment to their country for war purposes.

A year and a half ago, R. J. Rose of Modesto paid out for his foundation stock of Duroc-Jerseys, $223. Since that time he has sold $814.85 worth of hogs, and has a goodly number remaining on his ranch.

Hogs fattened entirely on dried figs make the finest kind of hard pork, according to U. S. Wertz of Chico, who butchered six for Pete Moore of Gridley. They weighed over 200 pounds each at 9 months.

J. M. Knittle of Turlock recently paid W. D. Trewhitt of Hanford $35.00 for a hred Poland-China sow. He now has seven little Poland-Chinas for which he wouldn't take $35 quick money.

John Decker & Sons of Tulare are utilizing the unmarketable cantaloupes and watermelons by feeding them to their registered Duroc-Jerseys. They find that one ton of cantaloupes is equal to about 200 pounds harley in feeding value.

A sow overheated and cooled off by pouring water on her was paralyzed and has not recovered, though her owner, S. F. Williams of Chico, hopes to save the pigs. C. E. Barrows of Los Molinos says it is all right to pour water on an overheated hog's head and where it can lie down on it; but never on its back.

H. L. Murphy of Perkins reports having for sale some fine Shorthorn bulls and Berkshire sows—all registered. Some of the animals have been brought from the East, and others are part of the Murphy foundation herd.

The Mistletoe Ranch of Modesto are finishing about 100 hogs a month. Just recently they had 65 head gain in 6 days 730 pounds, or an average of 1.86 pounds each daily. They were fed a ration of rice, middlings, and rolled barley, half and half, and buttermilk.

Sept. 1 entries closed for the horse show that will be held at the Panama-Pacific Exposition Sept. 30 to Oct. 13. From the number of entries made, and the charcter of the entrants, it is the belief of the Exposition officials that the show will surpass any ever held before in the United States.

A. M. Henry of Farmington, president of the California Swine Breeders' Association, states that in the directors' meeting held at Stockton, Aug. 25, permission was given to the Poland-China breeders to hold a consignment sale at Hanford under the auspices of the Association, provided certain rules and regulations adopted by the directors were followed.

A. L. Stephenson of Los Molinos has a purebred sow, Chub the 3rd, two of whose sow pigs are square blocks weighing 60 pounds at 10 weeks, and two others of which are only slighily lighter. They are not for sale, as Mr. Stephenson thinks them worthy of being the foundation for a great herd. Chub the 3rd is a litter mate of Royal Lee 8th owned hy Mr. Steele of Salem, Ore.

E. W. Westgate and John McCormack of Rio Vista paid this office a visit last week while attending the meeting of the Directors of the California Draft Horse Breeders' Association. Mr. Westgate stated that satisfactory progress is being made in connection with the Colt Show to be held at Rio Vista September 9, and that they are expecting several purebred breeders from the outside to enter their stock. It was largely through Mr. Westgate that the Directors of the Association agreed to provide the Sterling silver medal and watch fob for the grand champion foal at the colt shows this fall.

CATTLE AND SHEEP.

The Central Stockmen's Association held a convention at San Luis Obispo on August 28.

Heavy shipments of cattle are reported from Nevada to the San Francisco markets, one firm shipping 60 cars to the Western Meat Company.

At Thornton, San Joaquin county, over 10,000 sheep helonging to the Western Meat Company were sheared recently.

Forty-two carloads of stock, the largest shipment made from that section for several years, left Chico on August 25 for San Francisco.

J. E. Wilhoit, in charge of the Shorthorn view herd at the Panama-Pacific Exposition, reports that the cattle are in fine shape and that he could have sold every animal in the herd twice over if they had been for sale.

Sheep raisers of northern Sonoma and southern Mendocino counties are formulating plans of organization for the purpose of arriving at a uniform system of wool grading and for disseminating information of value to wool men.

MISCELLANEOUS.

Atwater is going to hold a District Fair on Sept. 18. Live stock of all kinds will be shown.

J. H. Hersh of Denair is starting registered Holsteins and Duroc-Jerseys, and has a side line of sheep. He figures that the sheep will live on what the cows and hogs leave.

Sec'y. Paine of the State Agricultural Society has placed the State Fair grounds at the disposal of eastern stockmen who wish to condition their animals before taking them to the Exposition.

Receipts at the Portland Union Stock Yards for the week ending Aug. 24 were: Cattle, 1176; Hogs, 2081; and Sheep, 1594. Cows and heifers, as well as the entire cattle market, were considered steady to strong. Bulk of steer sales went at $6.25 to $6.75. Top hogs sold for $7.55. The lamb market especially has shown good strength; they readily sold up to $6.50.

Between 40 and 50 silos have been erected in Stanislaus county since the first of January, according to H. T. Fisher, Silo Expert of the Tuolumne Lumber Co. of Modesto. A pretty good beginning.

Contrary to word recently given out, the Illinois commission to the Panama-Pacific Exposition will not withdraw prizes it had offered livestock raisers of that State for exhibits at the stock show at the Exposition this fall.

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BY putting on ½-inch hoops instead of ¾-inch.

BY furnishing a door that would leak instead of the patented refrigerator, air-tight type that is an exclusive feature in the IDEAL.

BY not furnishing a 3-ply circular plate at the top to hold the silo rigid and round and prevent its collapsing.

BY not supplying an acid-proof, water-proof paint for the inside of the silo.

BY making the doors serve the purpose of a ladder instead of furnishing a ladder complete within itself fastened to the silo at one side of the doors.

BY faulty design and inferior material and construction and omitting a galvanized steel ventilator for the roof.

But if we did, you would not be satisfied with it.. A silo to be of any value must be absolutely **air and water-tight** and of such design, material and workmanship that the shrinkage, while standing empty, can be readily taken up and the silo made just as serviceable as when first constructed **without its being necessary to rebuild it every year**, or to use pitch to chink up the cracks, as is necessary in others.

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No. 14— 500 lbs. milk per hour **$45.00**
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F. O. B. Los Angeles and San Francisco (Sunnyvale)

Write for catalog and complete particulars regarding this great **"price wrecking" offer.**

I also have gas engines, the famous Old line, 1½ H.P. to 35 H. P. at 50 per cent reduction.

How about a 1½ H. P. complete ready to run for $35.00, f. o. b. Los Angeles. Other sizes are in proportion. Get in touch with me before buying. I can save you money and give you standard quality.

BERNARD B. FALLON
SPECIAL AGENT HARRIS BROS. CO.

207 N. Los Angeles St., **Los Angeles, Cal.**

Veterinary Queries and Replies.

[Answered by Dr. H. B. Wintringham, Petaluma, Cal.]

SOW PARALYZED.

To the Editor: My brood sow about a year old has lost all her strength in her back quarter; she is not able to walk at all. She was bred about three weeks ago; she is in a good condition. I feed her corn and slops and she gets all the water she can drink.—P. B. Redlands.

[This is paralysis due to her pregnant condition. Give her 20 grains potassium iodide three times a day before meals.]

GARGET.

To the Editor:—One of my cows was fresh three weeks ago with her fourth calf; she is milking a fine flow of milk, but after it is separated there is a slimy mucous on the separator discs. She appears in a healthy condition. Will you kindly state the cause? — Subscriber, Lodi.

[This is a mild form of Garget. Give this animal 2 drachm doses of potassium iodide dissolved in water twice a day for two weeks.]

LUMP ON DOE'S SHOULDER.

To the Editor: Can you please tell me what is the matter with my doe? She kindled about three or four days ago. This morning I noticed a big, hard lump back of her right shoulder. I feed her hay, greens of all kinds, and once in a while corn. The young ones are doing fine.—R. H., Monterey.

[This is an abscess. Lance it at its most dependent point and syringe out the cavity once a day with hydrogen peroxide 50 per cent strength.]

HOGS DOING POORLY.

To the Editor: I have four young shoats among my herd that are not well; they lie around, and seem to have no appetite, when walking are weak in hind parts, when standing are humped up and breathe very short. My hogs are running on alfalfa with plenty of fresh water and shade. Would like to know if this is a contagious disease and what I should do for them.—A. W. W., Gilroy.

[Separate the sick pigs from the well immediately. This looks like a form of contagious pneumonia. Give them the following: fluid extract nux vomica, 2½ drachms; fluid extract belladonna, 2½ drachms; guiacol, 5 drachms; alcohol, 4 oz.; water enough to make 8 ounces. Dose, two teaspoonfuls three times a day.]

COW REFUSES TO EAT.

To the Editor: I bought a Jersey cow about five or six weeks ago. About a week after I got her, she would not eat; her bowels were loose. She would eat a little, then would bloat and she seemed cold all over, though not in pain. I got medicine from a veterinary. In a few days she seemed better and would eat, but not as if she was hungry; and was very particular about what she ate. In a week or ten days she would not eat hay again; would eat grass or rolled barley a little. Both times she dropped down on her milk. What is the trouble?—M. S., Long Beach.

[This is indigestion. Let your veterinarian continue to treat this animal, as he did her good in the first place. Conditions of this kind are slow in responding and cannot be helped altogether at one treatment.]

MOON BLINDNESS.

To the Editor: The eyelids of my horse become puffed up and eyes discharge a watery substance as soon as warm weather comes on every summer. The local veterinarian calls it "Moonshine blindness" and says there is no cure. During cool weather the trouble disappears. Bathing with cold water twice a day seems to keep the trouble in check to a certain extent. During winter and spring the animal is up on the bit at all times, but while still keeping in good order, becomes lazy as soon as the eyes begin to run. Sometimes only one eye is affected. It seems to me this must be an infection, and if so there must be a cure. —Reader.

[Moon blindness is incurable. As you have not given sufficient symptoms to make a positive diagnosis of this trouble, try the following treatment: 1 ounce of 1% atropin solution, 1 ounce 1 per cent eserine solution. Place a few drops of one of these in the eye once a day and the following day use the other, alternating the solutions. daily. Also place a piece the size of a pea of the following ointment in the eye twice a day and rub in: 1 ounce 2 per cent yellow oxide of mercury ointment.]

STALE MILK INJURES HOGS.

To the Editor: Two of our sows died suddenly and the rest in the lot got a black diarrhoea. They are on pasture, received a little ground feed and separator skim milk hauled in a wooden tank, night's and morning's milk mixed. Another lot in the same pasture, separated only by wovenwire fence, receiving the same feed except the milk, were not sick at all. The sickness lasted a week and I suspected the milk so stopped feeding it and the sick hogs got well right away and have not been sick since. The milk tank in which it was hauled to the hogs didn't used to be cleaned at all, but lately we scrape it out once in a while and wash it out with clear cold water. We began that some time before the hogs got sick. What could there be in the milk to kill the hogs? We want to use the milk, but want to avoid the danger.—J. H., Tehama county.

[There is no doubt that the stale milk adhering to the sides of the tank putrefied and contaminated the fresh milk put in. This caused ptomaine poisoning. Keep the tank absolutely clean and you will avoid future trouble from this source.]

HORSE'S THROAT SORE.

To the Editor: I have a horse that runs from the bowels. He will also stand and drink for fifteen or twenty minutes without taking his mouth from the water; he eats everything put before him. He does better on grain hay than he does on alfalfa hay. Can you tell me what to do?—L. D., Stevenson.

[If you watch this horse closely while he is drinking you will notice that the water is returning through his nose. He has pharyngitis or sore throat. Syringe his mouth and throat out four or 5 times daily with a saturated solution of potassium chlorate. Also have his teeth examined by a competent man.]

HOW PIGS GROW.

W. S. Guilford of Glenn county, author of our new California Hog-Book, says: "Pigs weigh from one to three pounds when they are born and an average sow produces a little less than a pint of milk per day for each sow. Sow's milk is richer than cow's milk. This is the reason that you can almost 'see' pigs grow during the first few weeks of their existence.

"The cheapest gains are made while an animal is young—hence the necessity for providing the best of care and feed for sows and pigs."

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Ripe Sorghums for Silage.

[Written for Pacific Rural Press.]

"Early Amber sweet sorghum makes the best and most satisfactory silage of any of the sorghums, such as milo and feterita, which we tried last year," says E. C. Voorhies of the University Farm, where four varieties of silage were siloed last year. Though the Early Amber was so smutty that clouds of the smut blew out of the silo when it was being put in, this variety was most relished by the dairy cows, as reported by the herdsman and observed by Mr. Voorhies.

"All varieties, however, make first-class silage, but must be allowed to mature their grain before being cut. Sweet sorghum sours in the silo if not mature, as has been experienced by most of those who have used it. When any of the sorghums are ripe enough to be siloed, the leaves are considerably withered and dried, but this is no particular disadvantage because plenty of water is added while cutting.

The last crop of alfalfa also is a candidate for the silo, especially when there is danger of late rains. It usually does not cure very well anyhow, but can be entirely saved by the silo.

Corn or sorghums for silage should be planted very thick, in order to get more leaves and slenderer stalks, so that when cut up they will be in smaller pieces.

PEACHES SATISFACTORY FOR HOG FEED.

[Written for Pacific Rural Press.]

Anticipating trouble marketing his peaches, A. Dacosse, who has 11 acres of clings in Sutter county, arranged his swine breeding so he could take advantage of the crop for fattening them.

"I wouldn't fool with them at $10 to $7.50 per ton which the the cannery offered," says Mr. Dacosse. "They require us to cull out all but the best, even at that price, where in previous years they would do the culling and pay living prices. After picking, sorting, and hauling them there is more in it to shake them onto the ground for the hogs. Six pickers require two sorters and we would have to throw away about half to the hogs anyway. Might as well keep hogs to eat all of them."

About 110 head, young and old, were kept for fattening on peaches. A sack of barley is fed twice a week and a few small potatoes bought at 25 cents per sack. About 25 boxes of peaches twice a day is the hogs' capacity.

"I threw out 50 boxes this morning and they went off shaking their heads. That's enough for all day. There is a disadvantage in depending on peaches for hogs, in that the Tuscans last about three weeks, then there is a gap of about ten days till the Orange Clings come, then another gap of ten days till the Phillips come. Must feed barley in the between. If there isn't any danger from their eating the meats of the pits, I want to find a way of cracking them, because the pits contain as much nourishment as the peach meat itself. They won't crack the pits unless they are pretty hungry."

Mr. Dacosse has raised hogs and other livestock since the earlier days of Sutter county and his judgment is that the ones eating peaches are making satisfactory gains. He has even hauled the cull fruit a mile and a half from the orchard of W. C. Huston, who had nearly 20 tons of Tuscans to spare.

COW LAMENESS.

To the Editor: One of my cows seemed to get lame in both hind legs or paralyzed; did not lie down for two or three days. She never went down in milk much; was pasturing on Johnson grass at the time.—J. R. Chinn, Madera.

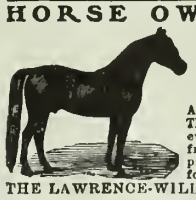
[This is rheumatism. Give cow one ounce sodium salicylate three times a day until improvement is shown.]

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Sales conducted in all parts of the State. Twenty-six years' experience. Write for terms. LINDEN STOCK FARM — Horses, Mules, Shropshire Sheep, Berkshire Hogs for sale. 704 Market St., San Francisco.

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Four Duroc-Jersey Boars
Like all our herd, these are registered from "Col. Keen" and "Advancer 41h" stock. Farrowed April 10. 1915. In the best of condition. Write for prices and particulars.
RIVER BEND FARM, St. Helena, Cal.

Durocs Cholera Immuned
Durocs out of R. D.'s Beauty, U. F. Advance, and other prize-winning strains. Good individuals at right prices. Shipped to you before you buy.
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HORSE OWNERS! USE
GOMBAULT'S
CAUSTIC BALSAM.

A safe, speedy and positive cure. The safest, Best BLISTER ever used. Removes all bunches from Horses. Impossible to produce scar or blemish. Send for descriptive circulars.
THE LAWRENCE-WILLIAMS CO., Cleveland, O

100-HOLSTEINS-100

Will Be Offered at Complete Dispersion Sale of Two High-Class Registered Herds

The Entire Herd Owned By T. J. GILKERSON, Lemoore, Cal. will be sold.

Hanford, Cal.

SEPTEMBER 15, 1915

The Entire Herd registered in the name of HEENAN & WELDON, Sacramento, Cal., will be sold.


MAUD MOOIE CLOTHILDE,
3 A. R. O. dams average 18.83 lbs.. All under full age.

80 ---COWS AND HEIFERS--- 80

We will bring to our sale September 15th at Hanford, California, the best lot of Holsteins ever offered at a California sale, both as to breeding and individuality. When you look them over you will admit our claims.

The cows are young, good individuals, and milk up to their breeding and individuality. Many of these cows that have not been tested will make high records for their future owners.

Among the cows are several who have A. R. O. dams for the first four generations, and their sires are the most noted of the breed. You will find A. R. O. cows with good records; also cows that have produced A. R. O. daughters.

The cows are bred to the two best young bulls in the West, Juliana De Kol King Segis and Prince Gelsche Walker Korndyke.

Any purchaser of a cow or heifer in calf to these bulls gets the produce that will grow into money, and always find ready buyers.

The heifers you will find an extra well-grown, well-marked lot, and bred in the lines that are making big records and selling for the high dollar. Granddaughters of King Segis, Pontiac Korndyke, daughters of Admiral Burke and Sir Pietertje Korndyke Abbekerk, and all bred to the above named sires.


LOCUST TERRACE GOLD DROP,
Dam has A. R. O. Daughter.


BEAUTY MERCEDES NUDINE,
One that can make a high record.

2---GREAT HERD SIRES---2

For seekers after herd sires, an opportunity is offered that will not occur again this year.

JULIANA DE KOL KING SEGIS, out of Juliana De Kol, a world's champion two-year-old, who has produced one good son, and sired by King Segis Pontiac Emperor, a three-quarters brother to the $50,000 bull, and whose dam has 100 per cent, the same blood as King of the Pontiacs. ..PRINCE GELSCHE WALKER KORNDYKE, a yearling bull who has more high-producing dams, more transmitting dams, and more 30-pound sires in his pedigree than any sire in the West, and individually he is the equal of his breeding.

All stock guaranteed exactly as represented. Everything over 6 months of age tuberculin tested.

Catalogs ready about September 1st.


KALSORA MUTUAL DE KOL,
4 years old, record 16.48 lbs. Dam's record 20.25 lbs.

20-BULLS-20

For Further Information Address

Dr. E. J. WELDON, Sales Manager
Box 962, Sacramento, Cal.

COL. BEN A. RHOADES
assisted by T. J. GILKERSON, Auctioneers

The Big Combination Sale.

James W. McAlister writes: "We are inclined to believe that in regard to large yearly records, size, show qualities, and individuality, the stock to be sold in our combination sale at Sacramento, October 6 and 7, will far surpass any other sale ever held before in the United States.

"In our consignment, we wish to call special attention to the daughters of De Kol Hengerveld Burke, one who, despite his limited opportunity, has come to be recognized as one of the greatest sires of the breed, having several daughters to make from 30 pounds to over 35 pounds in seven days. They are remarkably well bred on the dam's side, being in the most popular strains of the breed, one having a 26-pound, four-year-old dam who is a sister to the world's champion dairy cow over all breeds, Finderne Pride Johanna Rue.



DE KOL HENGERVELD BURKE,
Five of Whose Daughters Will Be Sold at the Combination Sale at Sacramento, Oct. 6 and 7.



JOHANNA McKINLEY SEGIS,
Sire of Some of the Females to Be Sold at Sacramento Oct. 6 and 7.

"The daughters of the $25,000 bull, Johanna McKinley Segis is also a most wonderful presentation to the purchasing public here in California. One of them is the second highest daughter for both milk and butter of her famous sire, and the other, Abbie Korndyke Segis, just made over 21 pounds butter as a three-year in the extremely hot weather in July. She has been declared by many critics to be the best individual daughter of Johanna McKinuey Segis, Offering such animals as her proves that we are not sparing any of the best in our herd.

"The great show bull, Sir Spofford Beets, who has won grand championships at many of the principal fairs in the East, will be represented by one of his very best individual daughters, Aaggie Mechthilds Beets, who made about 20 pounds as a three-year-old, and whose dam sold for $625 at the Breeders' Consignment sale last year at Hanford. There will not be a single blemished animal in our offering."

COMING SALES.

E. J. Weldon writes: "The success of the Dispersion Sale in Hanford on September 15 seems assured, judging from the number of inquiries coming in for catalogs and information regarding the cattle to be sold. More especially are breeders interested in the two herd bulls, Prince Gelsche Walker Korndyke and Juliana De Kol King Segis, that will be sold, showing that the breeding public are alive to and appreciate the opportunity that will be offered them to secure two of the best breeding bulls ever offered at a public sale. While there are many nicely bred and good young bulls offered for private sale throughout the State, we are sure that no opportunity will be offered buyers to place their own price on better young bulls than we will offer aside from the two headline herd sires; and as we are selling our entire herds without reserve, there is no culling possible. Mr. Gilkerson, during the past two weeks, has made some very creditable record on a number of the cows in his herd that will be announced at the sale. Every one interested in Holsteins are invited to be with us at the sale."

MULES FOR THE WAR.

Two hundred mules for the French Government were purchased by a government agent recently near Lakeview and Blye, Oregon. The mules average from 1200 to 1500 pounds, and are from four to six years of age. The purchase price for the band in Oregon was close to $25,000. Payment was made in cash. There is sharp competition in Oregon for horses and mules. The purchaser of this band was offered $1000 for his bargain the next day after it was closed, but he declined.

W. H. Brink of Modesto finds registered Duroc-Jerseys far more profitable than the common hog to raise, figuring from a pork standpoint.

Geo. L. Proctor of Oregon has purchased the Rowland Ranch of 1163 acres near Healdsburg from Geo. P. McNear of Petaluma and Geo. D. Sanborn of Sebastopol.

SHEEP PAY WELL ON SMALL FARMS.

(Continued from page 217.)

"We formerly lost a good many lambs which were drowned trying to jump little streams during and after the storms trying to follow their mothers, but we now keep them off from the general range until they are pretty strong.

Potato Sprouts Dangerous.—"Sometimes we feed small potatoes and a little hay in the winter, but one must be careful not to feed potato sprouts. After losing a few sheep, having fed sprouting potatoes, I fed one with sprouts alone and the other potatoes from which the sprouts had been taken. The first died, but the other showed no ill-effects. Only the old ones would eat the potatoes anyhow; the young ones are better rustlers, and get enough of other feed.

"When the grain is off, we turn the sheep and old lambs on the stubble to help carry them over the season of dry grass. We aim to get rid of market lambs between April and July. We sold 175 in one bunch last May at $4.60 per head for all that would weigh a maximum of 60 lbs. on June 15. The buyer came to the ranch for these; other smaller ones were stringing along until August. These are sold to the local butcher, who does not want big sheep, or else they will be kept over.

In the latter case they are sheared in July, and will be again in April or May whenever warm weather comes. The semi-annual clipping of both old and young is due to the loss of wool which pulls out in bunches in wet, muddy weather if allowed to stay on too long.

The bucks are turned with the ewes June 15 to October 1. We do not like to have the lambs come too late on account of the feed drying up to before lambs are ready to sell."

TO GEO. H. CROLEY: "You mentioned to me that when you published the balanced egg ration in the Pacific Rural Press (which appears in Aug. 28 issue) you would show me that, without forcing egg laying to an extreme, it would cost one cent per egg for this feed when calculating the grain and mash at $2.10 per 100 pounds; the greens at $5 per ton, and assuming that Leghorns laid 144 eggs each and large breeds 120 eggs each per year. I am unable to figure this out to my satisfaction; please explain more in detail."—W. Welch.

One Cent for Feed In Each Egg Produced

[Written for Pacific Rural Press by Geo. H. Croley, President Federated Poultry Ass'n. of California.]

In answer to the request of W. Welch: It has been demonstrated in numerous tests that to feed liberally and at the same time avoid undue forcing of egg production, the following scale is very reliable: For Leghorns and smaller breeds 5½ pounds of digestible food is required per day for each 100 pounds live weight of the fowls and about 3 1-3 pounds of digestible food per day for each 100 pounds of the larger breeds. On that basis it would require about 15 pounds of our assortment, as published, for 100 pounds of Leghorns and about 9 pounds for 100 pounds of the larger breeds.

In laying condition, Leghorns will average about 30 hens to the 100 pounds requiring 15 pounds of feed, and at this rate 100 Leghorns would require 50 pounds of the feed per day which is divided as follows: 7:06 pounds grain; 7.62 pounds of mash; and 35.32 pounds greens, etc. For one year this amounts to: 2580 pounds grain @ $2.10 per 100 pounds, $54.18; 2730 pounds mash @ $2.10, $57.33; and 12,940 pounds greens, etc., @ 25 cents per 100 pounds, $32.35; total $143.86, or 14 cents less than an exact cost for each egg when the hens average 144 eggs per year.

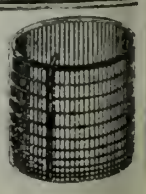
In the larger breeds an average lot of hens in laying condition will not vary much from five pounds each, which results in 20 hens for the 100 pounds live weight requiring 9 pounds of this feed or 45 pounds per day for a hundred hens. In order to avoid any possibility of forcing the larger breeds it is necessary to decrease the grain and mash a very little and make up the difference with the green stuff; therefore, we divide the 45 pounds as follows: 5:72 pounds of grain; 6.23 pounds of mash; and 33.05 pounds greens, etc. For one year this amounts to: 2088 pounds of grain @ $2.10 per 100 pounds, $43.85; 2274 pounds of mash at $2.10, $47.76; and 12,063 pounds greens, etc., @ 25 cents per 100 pounds, $30.15; total, $121.75, or $1.75 more than an exact cost of one cent for each egg when the hens average 120 eggs per year.

It is, of course, necessary that the hens have the capacity to produce this number of eggs. If they are not properly bred or are not given reasonable attention, these results cannot be obtained, while on the other hand this ration is capable of producing over 200 eggs per year from hens that have the capacity to digest more than the amount we state in our estimate. That is the whole "secret" of great egg production; the hen is simply a machine that consumes raw material and converts it into finished eggs. The hen that eats little or that consumes much, but does not digest it, cannot lay

Swineland

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We have for sale, fine young stock, both sexes; also boars ready for service and bred sows. No better stock in this State. We have recently moved our big breeding establishment from Yuba City to Woodland.
Write or call and see us.
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W. O. PEARSON, Prop. WOODLAND, CAL.

REDWOOD TANKS
SILOS
Water Troughs, Windmills, Frames, and Towers, Steel and Wood. Prices the lowest.
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640 So. Center St., STOCKTON, CAL.



many eggs; neither can she produce them if not given the proper assortment of materials that go into the construction of the egg.

Because it is generally understood that for one year about 70 to 80 pounds of feed is required for a laying hen, it may be well to state that in calculating the weight of the green stuff, etc., we aim to supply practically the same amount in dry weight as we do of grains. Although the weight of the greens in our list is five times the weight of the grains, they are practically equal because the greens average about 4-5 water and the grains only about 1-10 water.

In making our calculation we have endeavored to fit them into average conditions. An expert feeder could accomplish much greater results, particularly if he adds careful personal attention to the hens. As an illustration: We recently visited a poultry plant that was feeding a ration not quite as rich or varied as the one we published; in the large flocks of about 500 hens each the average yearly egg yield was about 148 eggs each while in some small flocks of 20 hens in small houses and yard room of less than 3 square feet per hen averaged nearly 200 eggs on the same feed, but with more personal attention.

Farm Poultry for Profit.

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

CAN THE MOLT BE CONTROLLED?

(Concluded from last week.)

Feed all the green feed you can possibly get. Yesterday I heard of a poultryman with five acres of land who is actually feeding his hens the leaves from his fruit trees for green feed. He says he is losing money, and I believe him, more than that I believe he ought to lose money. Five acres of land and plenty of water, Why, if it was me I would dig up one or two of the trees out, if it was not possible to grow feed in the rows, but green feed I would have or the chickens would go.

It is just as much a question of health, as it is economy, to have some green feed for poultry. Anybody can grow some green feed, perhaps not all they would like but they can grow some, or try to. To keep young stock in a growing, healthy condition they must have a good variety of grain as well as vegetable diet, cleanliness and room to grow; given these we may expect them to pay it back some day, but if any or all of these needs are held back the chicks will never be a profitable investment. So we see that even from selfish motives we ought to give the stock good care.

Fresh Air.—This is a trying month, the days are rather hotter than usual and everything needs plenty of fresh air and room. Food is not quite as important as the comfort in hot weather, yet it costs more in hard money; lack of air and room costs both money and labor.

Care and Regularity Needed.—Cutting the feed off, changing it from one thing to another, moving hens around, and all these things that are entirely in our hands, cause the hens discomfort and change the chemical conditions of the system. With this knowledge, every poultryman can and should regulate his system of feeding and caring for his flock and keep it in order. Instead of that we find the average man trying first this thing and then something else, because somebody tells him it is good. Now I don't mean to say that we should not experiment and try new things, but it should be done in a small way with just one small pen of fowls, not with the whole flock that we are depending on for eggs to foot the bills.

I have heard that when bachelors in camps make a new kind of biscuit they always try it on the dog first; if the dog lives through it, it's safe for them to eat. That would work out on poultry ranches, too—try the experiments on a few and note results. You need not kill anything to make an experiment, except it be time to watch the results. I say now what I always say, if half the time spent in other things was spent in watching the poultry there would be smaller and fewer failures.

"California Poultry Practice" tells you right out in plain English, the sort of English that calls a "spade a spade" and makes no excuses for doing it, just what to do and how to do it.

Don't Force Molt.—Since the above was written a poultry feed salesman was here and we naturally got to talking about molt; and he says some poultrymen are feeding 20 per cent animal food to hurry the molt. Oh yes, they will kill quite a few, no mistake about that; liver troubles and all kinds of troubles will spring up in the wake of 20 per cent meat; but they think eggs must be gotten to pay the bills. And one man said that after counting his dead, he was money in hand by this method of forcing the molt. Well, he may think so, but I don't, and neither will he after a few years' experience, because the hens will not live half long enough to pay a profit on raising them. And after they are through the molt, they will lay a few eggs, then get roup or go light and drop off like flies on a poison dish. Now what sense or reason is there in that kind of feeding?

Time of Molting.—Now as regards the molt and time of hatching, all Leghorns that are hatched earlier than March will go into winter molt. It is not possible, so far as I know, to prevent it, so if your pullets are early hatched you can look for them to go into a winter molt about December or January; but plenty of green feed will be on hand at that time and the weather being cool you can feed a generous ration of both protein and carbohydrates. Boil a good mess of potatoes and mix a good rich mash in them and feed them warm, then at night give half corn and half wheat for supper and the molt will not last long. Pullets hatched after middle of March ought never to molt until the following fall, nor will they if the feeding is properly regulated. But if they are fed on the hit and miss plan both in regard to quantity and quality, why you can't blame the hen for going on strike. Molting more than once a year is the hen's method of protesting against the treatment you are handing out to her; it's all she can do and sometimes it is wonderfully effective in making the boss "sit up and take notice."

Be Careful in Buying Mash.—And by the way, if hens did not have any more sense than some of us who pretend to know more, we never would find out the many frauds, called "mash," there are put up in sacks and sold at exorbitant prices. Some of these mixtures contain very little real food that the hen can use to make eggs with; the bulk of it is what might be called "fillers." The filler is generally cocoanut ground up or some substitute for bran, nothing in the world but wood fibre that just about uses up all the hen's energy to get rid of; and no doubt when a hen has managed to pass it through her system, she has worked hard enough to have made several eggs, had the right material been on hand.

Swelling Under Turkeys' Eyes.—Your turkeys have roup. Clean up your yards, feeding troughs, drinking vessels, etc. Scald them, give the turks a physic of epsom salts in a little mash, say 2 ounces to a quart of mash, and let all have some; then quit the bran mash and feed more dry food; feed the mash dry and give more grain. Look after them at night and see that they do not crowd.

Sore Mouth in Turkeys.—For the sore mouth (which is canker), clean up your feeding ground, and scald the drinking vessels first thing, then give soft feed with one teaspoonful of sulphate of iron to a quart of mash feed, fed just moist enough to mix. Swab the mouths and throats with pure peroxide of hydrogen. Do this until cured.

CHICKEN FLEAS.

To the Editor: Will you please tell me how one can fight the little fleas that live on chickens heads and throats? Our chickens range and do splendidly with the exception of those hatched in the late summer or fall. These become infested with fleas that live on chickens' heads and antiseptic salve on their heads, but this has to be repeated every few days and that is hard on the baby chick as well as a great deal of work. There are none of the fleas in the chicken house.—Mrs. R. F., Lompoc.

[Answered by Geo. H. Croley, San Francisco.]

[The samples you sent seem to be just ordinary fleas and not what is usually known as chicken fleas. The only way to prevent them from attacking the chickens and to gain permanent relief is to first destroy their breeding places and then treat the chickens with insect powder or the ointment you mentioned. These hopping fleas prefer to breed in dusty cracks and corners of buildings, but when forced to do so they will breed in the open in the dust or sand. For the houses, clean out dust as much as possible and spray with distillate and carbolic acid or naphthalene flakes dissolved in cheap kerosene. For the yards, spray with water and hoe or thoroughly stir the dust or sand while spraying. We have never found anything that was superior to water and hoeing for killing them in the open.]

J. K. Fraser of Denair lost his show boar, Slocum Crimson Wonder, a few weeks ago of overheat. He is going to the Panama-Pacific Exposition this fall just the same and will take California Defender, a son of the one lost.

Mammoth Bronze turkeys from eggs for which Mrs. N. E. Meelick searched Pennsylvania, New Jersey, and the Virginias, will be shown by her at the Panama-Pacific Poultry Show.

Poultry Breeder's Directory

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

BABY CHICKS—Those "hatched right" chicks that arrive ready for business. White and Brown Leghorns, Rhode Island Reds, Barred Rocks, Black Minorcas. All from fine stock. Write for free circular. Breeders of Flemish Giant Rabbits—"the real giants." Campbell Poultry Ranch, Campbell, Cal.

WE ARE BOOKING ORDERS for Fall and Spring hatching now. White and Brown Leghorns; Barred and White Rocks; Black Minorcas; Rhode Isand Beds; Buff Orpingtons and Anconas. No deposit required with order until 30 days previous to delivery of chicks. Large orders a specialty. Santa Clara Valley Hatchery, R. 6, San Jose, Cal.

WHITE PLUMAGE POULTRY FARM and Hatchery. Sells Fall and Winter chicks. White Legborns, Barred Rocks and Rhode Island Reds. Circular free. H. A. Schlotthauer, Exeter, Cal.

BARRED PLYMOUTH ROCKS—"The kind that Win and Lay." Choice stock for sale. Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

CROLEY'S EVERLAY EGG MASH AND CROLEY'S SCRATCH FEED form a perfect balanced ration. Ask your dealer for them.

TRAPNESTED LEGHORNS—White and Buff Stock. Eggs, chickens. Arthur R. Schroeder, Box 179E, Mountain View, Cal.

ORPINGTONS, BUFF AND WHITE, Black Minorcas and Carneux pigeons. Mrs. Susan Swaysgood, Pomona, Cal.

HARES AND RABBITS.

LEADING RABBITRY IN AMERICA—Flemish Giants and New Zealands Cut your living expenses Catalogue free. Empire Rabbitry, Empire, Cal.

BOSWORTH'S Imperial Red New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville, Cal.

BELGIAN-FLEMISH young does for sale reasonable. Loma Vista Ranch, Box 623, Livermore, Cal.

BELGIAN HARES—Young stock for sale. Hurd Bros. St. Helena, Cal.

TURKEYS, DUCKS AND GEESE.

HART'S BRONZE TURKEYS—Limited number of last season's breeders for sale at reduced prices. Albert M. Hart, Clements, Cal. (Successor to Ed Hart.)

CHICKENS, DUCKS, GEESE, GUINEAS, PEA FOWL. Address Wm. A. French, 545 W. Park St., Stockton, Cal.

BEES.

BEEKEEPING INSTRUCTION BOOK FREE for beekeepers names in your locality. Spencer Apiaries, Ventura, Cal.

PIGEONS.

WHILE THEY LAST for $3 per dozen. Plymouth Rock Homer Pigeons. Very fine. Geo. M. Bosworth, Geyserville, Cal.



Now is the Time to Feed
Coulson's Egg Food
to your pullets as well as your hens, commencing at the age of three months.
Write for free book "Chickens" from shell to market.
COULSON CO.
Petaluma, Cal.



HOPLAND STOCK FARM
HOPLAND, CAL.
Standard Bred S. C. White Leghorn Cockerels, selected for Breeders. **Four months old, $12 per dozen; Yearling Hens, $12 per dozen.** Standard Bred White Plymouth Rock, Fishel and Owen Farm Strains **Direct.** Hens one and two years old $18 to $24 per dozen. Four to five months old pullets, $18 per dozen. Selected Cockerels and Cock Birds, $5 each and up.

The Home Circle.

THE LITTLE STREETS.

"Tomorrow I'll do it," says Bennie;
"I will by and by," says Seth;
"Not now—pretty soon," says Jennie;
"In a minute," says little Beth.

O dear little people, remember
That, true as the stars in the sky,
The little streets of To-morrow,
Pretty-soon, and By-and-by,
Lead, one and all,
As straight, they say,
As the King's Highway,
To the city of Not at All.

—Anna Hamilton Donnell.

THE OGRE OF GRIM GOBLIN CASTLE.

"It's too hot for anytbing," sighed Dorothy. "The crabs won't bite any longer, and my face is burned almost to a blister."

"Well, then, let's row up under the bridge, and get cooled off in the shade," suggested Tom; and Dorothy gladly nodded her assent.

Once under the shadow of the long wooden bridge, life began to seem more pleasant to Dorothy. Tom was really exerting himself to entertain her; for she was only a visitor, while Wood's River was his home.

They were cousins, and Aunt Anne had sent over for Tom to come to the Gables that afternoon, to take Dorotby out on the river, crabbing.

From their present position beneath the bridge the chimneys of the Gables were just visible.

"When I was a little chap, I used to call it 'Grim Goblin Castle,'" said Tom, as he pointed the Gables out to Dorothy.

"And the goblin?" she queried, laughing.

"Was Uncle John! You ought to have seen the way he used to scowl at me whenever I went to the Gables with mother to see Aunt Anne,—it used to scare me blue! I believe I'm a bit afraid of him still," he added, laughing.

"So am I," confessed Dorothy. "I don't know why,—but he's so big and so gruff,—and I heard him tell mother that children ought to be kept shut up in the school-room until they were grown."

"What a funny echo there is under this bridge!" said Dorothy. "Didn' you notice it? Well, listen now." And she screamed.

Then Tom tried it himself with wonderful results.

A moment later they heard the distant patter, patter of a horse's hoofs at the entrance of the bridge.

"Now wait," said Tom, "let's wait till he gets just over us, and then let's yell together. One, two, three —are you ready? Now!" Such a shout as tbey sent up, both of them together, and how the echo caught it up and repeated the dreadful sounds!

There was a sudden plunge overhead, the gentle pit-a-pat changed into the sound of galloping feet. Tom and Dorothy lay back in the boat and laughed heartily over the horse's evident astonishment.

They lingered for another hour, and then Tom leisurely pulled back. As they were walking up tbe pathway they met Michael, the hired man, hurrying down toward the river.

"Begorra, an' I was jest comin' out to look for yez. A great excitement we've been havin' here. There's tramps about, hangin' around the bridge yonder; an' tbey hollered, an' scared Brown Bess so she ran away, an' yer uncle was throwed out and hurted his arm. An' he's declarin' he'll have 'em arrested an' locked up in the county jail. 'Better catch 'em furst,' sez I. But Miss Anne she sent me out to find yez; for 'the river ain't safe,' sez she, 'with such ruffians hangin' about.'"

Tom and Dorothy exchanged a rapid glance; and Dorothy's color paled, while a quick flush overspread Tom's olive cheek.

"Is Uncle John badly hurt?" he questioned anxiously.

"He's badly shook up, but he's madder than hurt, I guess," he said shrewdly, as he turned off toward the barn.

"Oh, what shall we do?" whispered Dorothy. "I never thought we were doing any harm!"

"Nor I," said Tom. "So just you keep still, Dorothy, and don't say a word. Nobody knows we were under the bridge. They think it was tramps, you see."

"Yes, I know — but" — objected Dorothy.

Tom flushed hotly. "We can't help it now," he said.

Uncle John's arm bad been bandaged, and he was in the library, resting. He had given strict orders that he was not to be disturbed.

Shortly afterward, in spite of his orders, Uncle John was disturbed by a knock.

"Come in," he said gruffly; and the door opened to admit his nephew Tom.

"What do you want?" he growled.

"I want to say I'm sorry for the —accident, uncle," Tom began awkwardly; "and I hope you are not much hurt."

"A sprained arm and plenty of bruises; but wait till I catch those rascals!"

Tom drew a quick breath.

"I did it, Uncle John!"

"You?" Tbe gleaming eyes under the shaggy brows were suddenly turned full upon him.

"I did not think it would do any barm. It was thoughtless. I am very sorry."

"Who was with you?" demanded Uncle John. "There were two voices."

"That I cannot tell you. The blame is altogether mine."

His uncle looked at him in silence for a moment. Then he pointed to the door. "You may go home," he said gruffly. "I will not pardon you today."

It was already dusk when Uncle John was disturbed again. This time the intruder was a pale-faced, fair-haired girl.

"I'm so sorry you were hurt," she murmured in a rapid, half-frightened way; "but I had to come and tell you—it was—it was I—who did it. I never dreamed it was going to do any harm."

"Oh, ho!" said Uncle John. "So you were the ruffian who frightened Brown Bess! And who was the other one?"

"Oh, but I canont tell you!" Dorothy said bravely.

Uncle John stared hard at her. "What did you do it for?" he asked at length.

"The echo under the bridge was so funny! We—that is I—had been trying it; and then when we—I—heard the horse's footsteps coming, oh, so slowly—we waited, and



"John"—

"We are almost out of chocolate. Get a 3-lb. can of Ghirardelli's Ground Chocolate. Don't buy the bulk kind."

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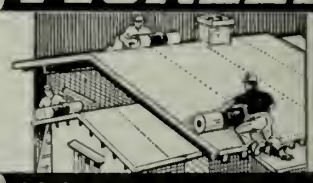
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counted one, two three—and then we shouted as loud as we could, and we—I laughed so to hear the horse jump and go galloping away! But I never thought of doing any harm, or that you—or any one—would be hurt."

"And who was your companion under the bridge? I insist upon knowing," said Uncle John again.

"I cannot tell you," she repeated bravely, trying to steady her shaking voice. "No one would have thought of doing it if it had not been for me."

"Very well, Miss Obstinacy! I shall know what to think of a girl who refuses to answer her uncle's questions. You may go now, but come here again in the morning at a quarter past ten. I shall then have something further to say to you."

At breakfast the next morning Tom received this note.

"Nephew Tom,—I wish to see you in my library this morning at ten. Be punctual. Uncle John."

Again Tom was standing before his uncle in the library, and he had just again refused to tell who had been his companion on the river the day before, when there was heard a gentle tap, and in came his pretty cousin.

"Dorothy!"

"Tom!"

Each looked as if trying to fathom the reason which had brought the other hither. Then their eyes sought their uncle's face, and they saw his eyes gleaming upon them from under his shaggy brows.

"I'd like to know what I'm to do," he said gruffly, "with these two obstinate offenders who both so resolutely refuse to tell me their confederate's name."

"Uncle!" cried Dorothy. "You aren't really angry, after all!"

Uncle John actually smiled.

"Not very angry, my brave little woman, only still rather lame. Come here, sir! I hate a sneak; but I'm glad to have found you both out. Some day you shall take me out on the river, under the bridge, and let me hear that 'funny echo,' but not while there are any horses passing overhead,—do you understand?"

"I declare," Tom said to Dorothy afterward, "he isn't such an ogre, after all. I guess I'll never be scared at him again."

"Nor I," smiled Dorothy. "Uncle John is like a chestnut-bur, the prickliness all outside."

Uncle John, nursing his lame arm in the quiet library, had come to the conclusion that there were some young people he didn't dislike very much, after all.—Judith Spencer, in the Churchman.

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WONDERFUL COUNTRY.

The visiting diplomat from one of the countries of Europe was being shown the stockyards district.

"And what is that queer looking building over there?" he inquired curiously.

"That is a fat refinery."

"And what do they refine in there?"

"Hogs."

The visitor made no comment, but in his letters of travel in his home papers was the following entry:

"America pays wonderful attention to refinement. They even have institutions where they make hogs refined."—Chicago News.

FOXY.

Rita (looking at photo)—Oh, yes, he's handsome enough, but he's an awful bounder.

Stella—What did he do?

Rita—Didn't I tell you? He made an awful fuss with me one season, and then asked if I thought that dad would object to him as a son-in-law. I said no, I thought not, and he went away and proposed to my sister.—Illustrated Bits.

RIPE TOMATO PRESERVES.

Six pounds tomatoes, 4 pounds sugar, 3 lemons sliced thin—leaving on the rind—cook slowly.

WHAT TO SERVE WITH ... MEATS.

Roast Beef—Grated Horseradish.
Roast Mutton—Currant jelly.
Boiled Mutton—Caper sauce.
Roast Pork—Apple sauce.
Roast Lamb—Mint sauce.
Venison or Wild Duck—Black Currant jelly.
Roast Goose—Apple sauce.
Roast Turkey—Oyster sauce.
Roast Chicken—Bread sauce.
Compote of Pigeon — Mushroom sauce.
Broiled Fresh Mackerel — Sauce of stewed gooseberries.
Broiled Bluefish — White cream sauce.
Broiled Shad—Rice.
Fresh Salmon—Green peas with cream sauce.

VEAL ROLLS.

Cut veal steak into pieces about 3½ inches square, salt and pound them. Mix together cup bread crumbs, 2 slices of onion, 1 egg beaten light, pinch of salt and a little sage, ½ teaspoonful baking powder. Put a little of this dressing on each piece of meat, roll it up, fastening edges together with toothpicks. Roll in flour and fry quickly to a deep brown. Cover with water and cover tight with cover. Set on back of the stove and simmer 10 minutes. Serve hot.

THE SORROWS OF CHILDHOOD.

Auntie—Why are you so sad, Lulu, darling?

Six-year-old — I was thinking, auntie, what a bother that little brother of mine will be when I grow up and have a beau.—Exchange.

GEORGIA SWEETS.

Boil sweet potatoes until they are almost tender; pare, slice in 1 in. slices, arrange in buttered baking dish with bits of butter and brown sugar and 4 or 5 allspice to each layer. Bake until they are a rich brown.

ONE METHOD.

"Is there any money in poultry?"

"You can get pretty good prices for chickens killed by passing autos, but you have to keep a sharp lookout."—Pittsburg Post.

Lawns are the foundation of all decorative planting. A good, well-kept lawn contributes more to the beauty of grounds than any other single factor. For this reason special attention should be given to the grading, cultivation, and enriching of the area to be devoted to the lawn. After good preparation come good seed and care. Get your ground ready now for October or November seeding.

Penelope: "There, uncle, that makes two hundred and seventeen presents. Aren't they lovely?" Her uncle: "My dear, I think I now understand why we are told that in heaven there is to be no giving in marriage."—Puck.

"Bruddahs and sistahs," said the old colored preacher, "I'se gwine to preach a pawahful sermon dis maunin'. I'se gwine to define the indefinable, I'se gwine to explain the unexplainable, an' I'se gwine to unscrew de inscrutable."

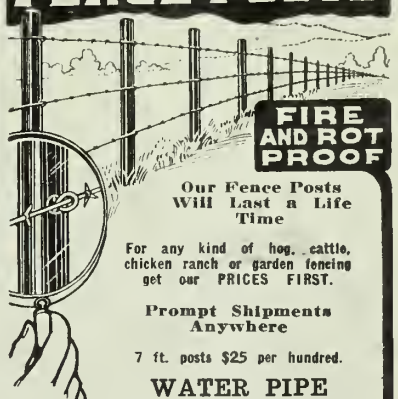
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The Markets.

Unless otherwise quoted f. o. b. San Francisco.

San Francisco, Sept. 1, 1915.

WHEAT.

The wheat market has dropped off shorply, in sympathy with conditions in the north, where a cessation of export buying has depressed prices. The outlook is very uncertain, depending largely on war and shipping conditions.

Sonora	$1.70@1.75
Cal. Club ctl.	1.60@1.70
Forty-fold	1.70@1.75
Northern Bluestem	1.85@1.90
Northern Club	1.60@1.70
Northern Red	1.60@1.80

BARLEY.

There is some business in shipping, but feed, which is offered freely, is slow to move, and the price has been shaded.

Shipping	$1.32½@1.35
Choice Feed, ctl.	1.17½@1.22½

OATS.

Oats are a little lower, partly in sympathy with other grains. Offerings are ample, with only limited demand here.

Red Feed	$1.30@1.40
White	1.45@1.50

CORN

The corn market holds fairly steady on all grades. There is a fair demand in the country for Kaffir, milo, etc., for feed, but locally the movement is rather light on all lines.

California Yellow	$1.80@1.85
Eastern Yellow	1.85@1.90
Milo Maize	1.75@1.80
Manchurian	1.40@1.60
Kaffir	1.80@1.85

BEANS.

The bean market is in decidedly uncertain condition just now, and quotations are somewhat arbitrary, figures from different sources showing wide variation. This may be attributed largely to the uncertainties of the coming crop, little of which has been harvested as yet, and also of the future demand. In the last week there has been some excitement in the market owing to heavy damage east, and large buying has caused a sharp demand in all lines. How long this will hold remains to be seen. The export outlook also is doubtful. It is said in some quarters that there will be a large quantity of off-grade beans, but it is too early to know this definitely. The outlook, however, is favorable for a large crop in most lines.

Bayos, per ctl.	$4.40@4.60
Blackeyes	3.50@4.00
Cranberry Beans	3.75@4.00
Horse Beans	3.00@3.25
Small Whites	4.50@4.60
Large Whites	4.15@4.45
Pink	3.60@4.20
Limas	4.50@4.85
Red Kidney	5.50@5.75
Mexican Reds	5.00@5.25

SEEDS.

There is practically no movement in the local market as yet, and prices remain largely nominal as formerly quoted.

(Wholesale prices, San Francisco.)

Alfalfa	17 @18 c
Brown Mustard, per lb	Nominal
Canary	10 @12½c
Hemp	3 @ 3½c
Millet	2½@ 3 c
Timothy	7½@ 8 c

HAY.

Local offerings continue about as heavy as for several weeks past. Prices are keeping up well at the level recently quoted, and all arrivals move off readily, with an active demand from local consumers, many of whom are beginning to put in supplies for the winter. There is also an active export demand, which is absorbing a large tonnage. Such hay as remains in the country is rapidly going into warehouses, and the fields will soon be cleared up. Alfalfa is firmly held, with a good demand.

(On track, San Francisco.)

No. 1 Wheat, per ton	$11.50@12.50
do No. 2	8.50@10.00
Barley	8.00@10.00
Tame Oats	9.00@12.50
Wild Oats	7.00@ 9.00
Alfalfa	8.00@11.00
Stock Hay	5.00@ 5.50
Straw, per bale	.25@ .40

FEEDSTUFFS.

Alfalfa meal has stiffened up sharply, owing to a brisk shipping demand. Bran and rolled oats and barley, however, are easier, in sympathy with the tendency of the grain market.

(Wholesale prices per ton, carload lots, San Francisco.)

Beet Pulp, per ton	$20.00@21.00
Alfalfa Meal, ton	16.00@19.00
Alfalfa Molasses Meal per ton	19.00@20.00
Bran, per ton	27.00@28.00
Oilcake Meal	38.00@39.00
Cocoanut Cake or Meal	23.00@25.00
Cracked Corn	41.00@42.00
Middlings	35.00@37.00
Rolled Barley	26.00@27.00
Rolled Oats	22.00@23.00

VEGETABLES.

Offerings in many lines have been excessive this week, resulting in a good deal of shading of prices. Arrivals of tomatoes are especially heavy, and hardly anything will bring over 40c. per lug, while a good deal is forced out at 20c. Bell peppers also are cheap, the best bringing 30c., and cucumbers are even lower than last week. Arrivals of summer squash also are rather in excess of requirements, causing a slight drop. Ordinary green corn is doing rather better, but nothing will command much premium. Eggplant is slightly firmer. Good string and lima beans are scarce, but ordinary stock is plentiful and easy.

(Wholesale prices, San Francisco.)

String Beans	1 @ 3 c
Lima Beans	2 @ 5 c
Peppers, bell, box	20 @30 c
Tomatoes, lug	20 @40 c
Cucumbers, lug	15 @25 c
Eggplant, lug	35 @50 c
Summer Squash, lug	20 @30 c
Green Corn, sack	.75@1.00
Okra, lug	40 @70 c

POTATOES AND ONIONS.

Onions continue very weak, with heavy offerings from the Delta, though some large shipments are going to Australia. Salinas potatoes are still rather scarce and bring high prices, and Delta stock is a little firmer. Sweets are lower, as supplies are coming forward more freely.

Salinas Burbanks	$1.50@1.60
Delta Burbanks	60 @90 c
Sweet Potatoes, lb	1¾ @ 2 c
Onions, ctl.	50 @55 c
Garlic, per lb., new	5 @ 7 c

POULTRY.

The demand for the week has been lighter than for a week or two previous, and with continued liberal arrivals prices have been marked down a little. Broilers show a wider range, and fryers, hens and roosters are all lower. Hares are doing better with the arrival of fall.

(Wholesale prices, San Francisco.)

Live Turkeys, lb	15 @28 c
Broilers	22 @30 c
Fryers	21½@22 c
Hens, extra, per lb	15 @16 c
Small Hens, per lb.	13 @14 c
Smooth Young Roosters per lb.	21 @22 c
Squabs, per doz	$2.00@3.50
Geese, per pair	2.00@2.50
Ducks, young, lb	13 @14 c
Old	12 @13 c
Belgian Hares	8 @ 9 c

BUTTER.

Arrivals are keeping up, and the hot weather tends to retard buying a little, besides cutting down the quality. Extras accordingly hold steadily at the old prices, while the lower grades show a slight decline.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	28	28	28	28	28	28
Prime Firsts	26	26	26	26	25½	26
Firsts	25	25	25	25	24½	23

EGGS.

Nearby districts have been sending in rather large supplies the last few days, and while Eastern stock is not so plentiful, the price of extras dropped back after a slight advance. Pullets, however, are a half cent up.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	31	31	30	30	30	30
Sel. Pul.	25¼	25¼	25	26	26	26

CHEESE.

Y. A.'s hold steady at the recent advance, while flats, old style, are a cent off. Monterey cheese is scarcer and continues to advance.

(S. F. Dairy Exchange prices on flats and Y.A.'s.

Y.A.'s, fancy	14½c
Fancy Calif. flats, per lb	11 c
Calif. Cheddar	11½c
Monterey Cheese	14@15c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	29	29	29	29	29	30
Cheese	12	12	12	12	12	12

DECIDUOUS FRUITS.

Prices in general are rather easy, as arrivals average pretty heavy, and much of the fruit is so ripe that it cannot be held back. Raspberries are again coming in fairly large quantities, though good stock brings satisfactory prices. Huckleberries are easier, while blackberries are advancing. Plums and prunes are steadily held with little change. Offerings of figs have increased, causing some easiness in prices. Nectarines are lower, and peaches also are rather easy, though there is a fairly good demand. Choice pears are firmer, but there is a good deal of poor stock sold at irregular prices. Most varieties of apples are higher. Practically everything in the melon line is easier, with large arrivals. Most lines of grapes have stiffened up a little.

Raspberries, chest	$6.50@11.00
Huckleberies, lb	7 @10 c
Strawberries, chest	1.50 @3.00
Blackberries, chest	2.00 @3.00
Plums, crate	50 @80 c
Prunes	60 @75 c
Figs, bx., double layer	.60@1.00
Nectarines, crate	50 @75 c
Pears, Bartlett, bx	1.00@1.35
Peaches, small box	30 @50 c
Lugs	50 75 c
Apples, Grav.	1.00@1.35
Alexander, 4-tier	.75@1.00
Belleflowers	.75@1.00
Crabapples, bx.	40 @50 c
Persian cantaloupes, doz	1.00@2.00
Cabasas, doz.	.75@1.00
Cantaloupes, crate	.75@1.00
Watermelons, doz.	1.00@3.00
Grapes, crate, Thompson Seedless	65 @75 c
Malaga	60 @75 c
Tokay	.75@1.00
Muscats	60 @75 c
Black	40 @65 c

DRIED FRUITS.

Local packers report a more active market in nearly all lines. Buyers in other markets are beginning to make active preparation for their late fall trade, which in many places promises better than last year; and while the export trade is still an uncertain factor, packers are showing more interest in country offerings. Evaporated apples show a slight advance, with no prospect of excessive production. Apricots continue very strong, with nothing obtainable at the former inside figure, while fancy lots might bring a premium. White and Calimyrna figs are both higher, on account of poor prospects for shipments from the Mediterranean. Prunes are being pretty firmly held, and packers have raised their offers a little in response to increasing requirements. There is also a firmer feeling in peaches, though there is no great demand and it is impossible to verify reports of better prices. There has been quite a heavy movement of raisins of late, and the market is quite steady. The New York Journal of Comerce says:

"With the season for 1914 crop Prunes rapidly drawing to a close the spot market is easing off and very light buying is in progress. Holders are evidently making an effort to dispose of their supplies before the shipment of the coming season's crop begins to reach the New York market. The general impression here is that stocks are growing very limited. The past week has witnessed a renewal of the export trade, which underwent a slight slump about the middle of the month. About 10,000 boxes have been sold by operators in this market for prompt shipment to Europe.

Future dried fruits remain practically unchanged. In prunes advices state that there is no indication as yet of the cessation of the strained relations which are existing on the Coast between the packers and growers. Until the present deadlock is broken in California the operators here appear to be content to sit by and wait for developments."

(Prices to Growers.)

1915 crop

Apples	5¾ @6½c
Apricots, per lb	6 @8 c
Figs, white	3½ @3¾c
Black	2¼ @3 c
Calimyrna	5½ @6 c
Prunes	3⅜ @3¾c
Peaches	2½ @3 c
Pears	5 @8 c
Raisins (in sweatbox):	
Loose Muscatels	4 @4½c
Seedless Sultanas	5 @6½c

(San Jose prices to growers, 1915 crop.)

Apricots, per lb	7½ @8½c
Prunes, subject to district	3¾ @4 c
Peaches	2½ @3 c
Pears	5 @8 c

CITRUS FRUITS.

The eastern orange markets continue in good condition, while lemons are in poor demand, and the chances for recovery being very poor, as the summer season is about over. Valen-

Bean Bags,
BeanSheets,
Irrigation Hose,
Twine, Tents,
Hay Stack Covers,
Wagon Covers—Canvas,
Desert Brand Water Bags.
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a oranges have so far averaged igher prices than for several years. n the New York auction, Monday, ug. 30th, valencia oranges averaged 'om $2.90 up to $5.45 per box, and emons averaged from 55c. up to 2.70 per box. At Chicago the same ay oranges ranged from $4.50 to 5; and lemons averaged from $2.25) $3 per box. Shipments are going ast at the rate of 30 cars of oranges nd 20 of lemons daily.

There is nothing new in San Fran- sco prices, all lines being steady at ast week's level. Lemons and grape- uit are in good demand, and orang- s are moving fairly well for this me of year.

Wholesale Prices, San Francisco.)

ranges, Valencias, bx.	$3.50@4.50
rapefruit, seedless, bx.	2.50@3.00
Fancy	3.00@3.50
emons, box	1.50@3.50

NUTS.

Pending the announcement of As- ociation prices, the nut market is ttle more than nominal, as there is arcely any movement of new nuts. is reported that contracts have al- ady been closed for a good deal of he southern walnut crop, which romises to be large.

(Prices f. o. b. San Francisco.)

lmonds, 1915 crop:	
Nonpareil	15½c
IXL	14½c
Ne Plus Ultra	14 c
Drakes	12½@13 c
Languedocs	11 @11½c
alnuts:	
Jumbo, lb	19 c
No. 1 Softshell	16½c
Budded	18 c
Ungraded	8 @10 c
Manchurian	11 c

HONEY.

More honey is coming in all the me, but an export movement to urope, has brought a slight advance water white extracted. Dark ex- acted is lower, and comb will hard- bring the top prices formerly quot- l.

ater White, comb	11 12½c
mber	10 @11 c
ater White, extracted	6 @ 7 c
ght Amber	3 @ 4 c
ark	2½ @ 3 c

LIVE STOCK.

Sheep hold fairly steady after last eek's decline. Hogs are coming in little more freely, and have been arked down ¼c.

(Prices at San Francisco.)

eers, No. 1	6¼ @ 6½c
No. 2	6 @ 6¼c
ows and Heifers, No. 1	5½ @5¾c
No. 2	5¼ @ 5½c
ulls and stags	4 @ 5 c
alves: light	8 @ 8½c
Medium	@ 7½c
Heavy	6 @ 7 c
ogs, Grain-fed:	
200 to 300 lbs.	6¾ c
100 to 200 lbs.	7¼ c
ime Wethers	6 @6¼c
ves	4¾ @5 c
ickling lambs	7 @ 7½c
nge.	

DRESSED MEATS

eers	10 @10½c
eals, large	12½@13 c
Small	14 @15 c
ime Wethers	12 @13 c
ves	11½@12 c
ickling lambs	13 @14 c
ogs	12 @12½c

WOOL.

There is practically nothing new the wool situation, as buyers in is vicinity are taking little interest present, and the greater part of e spring clip has been disposed of. umboldt & Mendocino 18@27c ool, Sacramento Valley, lb 18@22c uthern, year's staple 15@18c x months 14@16c

HORSES.

Reports continue to come in from ore or less distant parts of the untry about heavy purchases to be ade for Europe, but this stock is actically all of inferior quality and cked up at low prices, having so far no perceptible effect on the market. This continued drain, however, is bound sooner or later to result in a better demand for horses, and it is likely that the stock sold will be replaced by better types. Locally there is not much to report. Dealers are getting in a few more horses, but few over 1400 lbs. and local buyers take no great interest.

(Approximate values at San Francisco, based on auction sales.)

Heavy drafters, 1700 lbs. and up	$275@300
Light drafters, 1550 to 1650 lbs.	200@225
Chunks, 1350 to 1500 lbs.	165@185
Wagon horses, 1050 to 1350 lbs	125@150
Green Mountain range horses, 950 to 1200 lbs	50@ 90
Farm workers	60@ 75

MULES.

1200 lbs and up	200@225
1100 lbs	175@200
1000 lbs	140@160
900 lbs	90@150

HIDES.

The eastern market has eased off a little in the last few days, and prices in most lines are off about ½c. from the old quotations.

Heavy steers over 50 lbs.	16 @17½c
Medium	15½ @17 c
Light Steers under 48 lbs	15½ @17½c
H'vy Cows, over 50 lbs.	15½ @17½c
L't Cows, 30 to 50 lbs.	15½ @17½c
Kip	15½ @17½c
Veal	17½c
Calf	17½c
Dry Hides	26 @27 c
Dry Kip, 10 to 15	25 @26 c
Dry Veal, 5 to 10	30 c
Dry Calf, 7 down	30 c
Horse Hides—	
Salt: Large	$3.00
Medium	2.50
Small	1.00

HOPS.

Picking is about finished in most sections, but buyers are now disposed to hold off until baling is completed, and business is accordingly quiet.

(f. o. b. shipping point)

1915 crop	
Sacramento Valley	13c
Ukiah Valley	14c
Oregon	15c

Highest Market Price
and Prompt Remittance
for dried fruits, nuts, honey, beeswax, beans, etc.
Send samples or ship direct to
J. E. LAWRENCE,
326 Clay St., San Francisco

SPECIAL DECIDUOUS MARKET REPORT.

By J. L. Nagle.

Sacramento, Cal., Aug. 30, 1915

Market conditions have remained about the same during the past week, with the possible execption of a demand for fancy Pears and Tokay and Malaga Grapes.

The unseasonable weather during the past two weeks has not improved Grape conditions in California and as a matter of fact both the Tokay and Malaga crops are still lighter than they were a week ago. It is estimated that there are not more than 1000 to 1200 cars of Malagas yet to be shipped from the San Joaquin Valley and, consequently, we look for a steady market throughout the season.

There seems to be a slight demand for Salway Peaches, provided the same can be shipped to arrive in the Middlewest in the next two weeks, this is due to the fact that if they arrive any later they will come in competition with Washington. This seems to be the only ray of hope there is for late varieties of Peaches.

The following prices have ruled for the week:

New York.—Bartlett Pears, averaged $2.05; B. Hardy, $1.35; Tokay Grapes, $1.78; Malaga, $1.40; Grand Duke Plums, 83c.; Hungarian, 85c.; Gross, 75c.; Diamond, 75c.; Kelsey, $1.10; Elberta Peaches, 50c; Orange Cling, 70c.

Chicago.—Duke Plums, 80c.; Giant, 80c.; Gross, 85c.; Hungarian, 85c.; Kelsey, 75c.; McDevitt Peaches, 60c.; Elberta, 60c.; Crawford, 55c.; Susquehanna, 50c.; Bartlett Pears, $1.70; Malaga Grapes, $1.50; Tokay, $1.54.

Boston.—Bartlett Pears, $2.40; Gross Plums, 90c.; Dukes, 95c.; Hungarian, 75c.; Giant, 75c.; Kelsey, 90c.; Elberta Peaches, 50c.; Malaga Grapes, $1.75; Tokay, $1.85.

Total shipments to date, 7524 cars. Total shipments same date 1914, 8347 cars.

Almond Growers!

Write for our Free Booklet Giving Valuable Statistics.

CALIFORNIA ALMOND GROWERS' EXCHANGE

311 California Street, San Francisco, Cal.

REPORT OF PRUNE GROWERS' COMMITTEE.

San Jose, Aug. 28, 1915.

Since the Prune harvest commenced the feeling has been growing that the crop is falling far short of what was estimated at the time of the mass meeting in May.

At our meeting today a full report was made by 18 to 20 different growers in all parts of the county and of these only three reported as large a crop as was estimated early in the season. Half of the reports stated the crop would be 25 per cent less than estimates and the balance stated the shortage to be from 10 to 20 per cent.

A careful personal canvass by a member from one of the best districts gave the following figures: Of 30 growers interviewed having 804 acres of Prunes, the 1914 crop was 1702 green tons—the early estimate of the 1915 crop was 2038 green tons—the present outlook is for 1755 green tons, a shortage of 14 per cent from early estimates.

At present, packers are offering a 4c. base or better, for "first picking" prunes as they come from the trays. but are having very little success in obtaining any quantity at this figure. The growers as a whole are standing firm on the idea that 5c. base is the least price at which any general sale should be made. As all growers are aware the first pickings is the poorest quality of the season and as one of the largest growers in the valley remarked to a committee member: "If they pay 4c. base for such stuff it is equivalent to the good fruit being at 5c. base."

This low grade stuff that the packers are now buying is going out to fill the spot market for immediate use and by no manner of means sets a market price for the main crop, or in any way lessens the probability of the main crop reaching a 5c. base to the grower, who has backbone enough to demand and hold for it in the face of the evident shortage.

Direct reports from Sonoma, Napa, Contra Costa and Tulare counties indicate these districts are falling far short of packers' estimates and that a large proportion of the growers are holding, as we are, for 5c. base.

The situation now appears to be so far in the hands of the growers that it only remains for them to remember similar previous occasions on which their fruit has been sold by the packers while in the blossom on the basis of an enormous crop prospect and when harvest came and the tonnage shrank the price rose in proportion.

We again call attention of the growers to the way in which the price of dried Apricots rose after harvest, in spite of packers stating that it would be practically impossible to sell them at all.

Also we call attention to the fact that no matter how great the shortage, no buyer will raise his offer to the growers unless the spirit of the growers is such as demands and necessitates it.

J. H. BONE, Chairman.
H. O. H. SHELLY, Sec'y.

Publisher's Dep't.

A letter from one of the largest seed houses on the Coast says: "We believe your paper is most progressive, as you appear very ready to undertake anything which will promote the public welfare in the farming line."

A letter from a subscriber at Modesto says: "I value the Rural Press. It so thoroughly covers the field it occupies. I have your books—California Fruits, California Vegetables, also 1000 Questions, and find them very comprehensive and valuable."

E. F. Curtis of Napa, sends us a change for his liner advertisement and says: "I am more than pleased with your paper. I have sold over 30 pigs in a very short time, by advertising in the Press. Be sure and put me down for a "California Hog Book," it is just what we need."

The J. S. Gibson Co. of Williams, reports selling eight grandsons of the Holstein cow Tillie Alcartra, through advertising in the Rural Press. One inquiry coming as far as Argentina.

The cut used in the advertisement of the Killefer Mfg. Co., elsewhere in this issue, is the same that received mention in an article appearing in the Pacific Rural Press, week of August 21st.

A letter from Lockeford dated Aug. 28th, asks for information about "California Fruits." As the writer did not sign his name, we cannot answer the letter.

W. S. Guilford, the author of "California Hog Book," now in press, is watching the details of proof reading, cuts and make-up very carefully. We anticipate being able to send to the trade next week a very handsome, valuable, 288-page cloth-bound book. Price $2 per copy, postpaid.

Scores of new pumping plants will be installed during the fall months—perhaps more in the next three months than during all the other months of the year combined. If you are planning the installation of a new pumping plant you will do well to write to the Los Angeles concern that has recently issued a new irrigation booklet dealing with the technical side of the proposition and which is written in such a manner so that anyone can understand every word. This booklet contains a large amount of interesting irrigation information, in which is included—how to construct a weir and measure the quantity of water, convenient water equivalents, frictional losses, amount of horse power required to raise water, different types of well screens, qualities of different pumps, oil bearings for pumps and a score of other helpful subjects. A free copy will gladly be sent to any rancher, irrigator or prospective water user who writes to the Layne & Bowler Corporation of Los Angeles, requesting their new irrigation booklet.

Permanent headquarters for the assembling and distribution of "K" Hand-Power Stump Pullers have just been opened in San Francisco, at 182 5th street, by Walter J. Fitzpatrick, manufacturer and distributor of this remarkable land-clearing device in the United States and Canada. Owing to better manufacturing, marketing and shipping facilities in San Francisco, Mr. Fitzpatrick decided to remove from Seattle, where he has been operating for the past three years. San Francisco and the state of California, therefore, have won another large and promising industry, the business of which reaches into every farming section in the country where there are cut-over lands to be cleared. Recently, the business reached such proportions that it was impossible to fill the orders from Australia, and the manufacturing rights were purchased by Mr. Fitzpatrick, who is now manufacturing the machine on a large scale. They will be on demonstration every day at the San Francisco offices.

THE TWO GREAT SALES

The Crowning Achievement in Holstein Sales

Combination Sale

A. W. MORRIS & SONS, Woodland, Calif.
McALISTER & SON, Chino, Calif.

175 High Class Registered Holstein Friesian Cattle

Tuberculin Tested.

State Fair Grounds

SACRAMENTO, CAL., OCTOBER 6-7, 1915.

NOT ONLY BY FAR THE GREATEST SALE IN THE WEST, BUT ALSO IN RESPECT TO INDIVIDUALITY, SIZE AND CONFORMATION, HIGH YEARLY RECORD COWS: DAUGHTERS AND SONS OF HIGH YEARLY RECORD COWS. THE GREATEST IN THE WORLD!

Look at This Wonderful List of Offerings:

70 Great Record Cows, including:

Jane Korndyke of Riverside, with a record of 31.47 lbs. butter in 7 days from 713 lbs. milk and 119 lbs. in 30 days from 2875 lbs. milk.

A 28-lb. daughter and a 21.39 lb. 3-year-old daughter of the $25,000 sire Johanna McKinley Segis.

A 28-lb. 3-year-old with 2-year-old yearly record of 570 lbs. butter.

A 23-lb. daughter of a 30-lb. cow.

A 25-lb. daughter of Aaggie Cornucopia Johanna Lad.

Seven cows with yearly records ranging from 795 lbs. to 828 lbs. butter in 1 year and a number of other large yearly record and 7-day record cows.

Daughters of Great Record Cows

Including:

FOURTEEN DAUGHTERS OF KING SEGIS PONTIAC EMPEROR, including a 23.90 lbs. 3-year-old. Others out of an 800-lb. daughter of Ignaro De Kol, and an 800-lb. daughter of Romeo Aaggie Acme of Riverside, a 33-lb. cow with a yearly record of 1003 lbs.; a 31-lb. daughter of De Kol Burke; a 28.87-lb. daughter of Korndyke Queen De Kol's prince; a 27.58 lb. 4-year-old daughter of a 30-lb. cow.

TWENTY DAUGHTERS OF KING PONTIAC TOPSY, one of the best sons of King of the Pontiacs and nearly all out of large record dams. As nice and as uniform a lot as you ever saw.

EIGHT DAUGHTERS OF LORENA KORNDYKE: One of the greatest show bulls in the United States and out of high record dams.

SIX DAUGHTERS OF PRINCE GELSCHE WALKER: The only bull in the world from three generations of 30 lb. dams, all with records over 125 lbs. in 30 days. Two from sisters of Tilly Alcartra, with records of over 800 lbs. butter in 1 year, the other from high record dams.

FIVE DAUGHTERS OF DE KOL HENGERVELD BURKE: Sire of a 35-lb. and a 30-lb. daughter, all from A. R. O. cows.

A FORTUNE: Their calves will represent a fortune bred to such great sires as Segis Pontiac De Kol Burke, son of Riverside Sadie De Kol Burke; Aralia De Kol Pontiac Segis, son of the first 28,000 lb. cow; Tilly Alcartra Son, son of the world's champion milk cow, and King Korndyke Pontiac, one of the best sons of King of the Pontiacs. Bear in mind that there are many cows and heifers in this sale in calf to sons of cows that hold every world's record from 7 days to 3 years.

BULLS: Look at this list. Where can you find their equal?

Sons of 30-lb. cows and 1000-lb. yearly record cows, and also the two great herd sires King Segis Pontiac Emperor and Lorena Korndyke. Just glance at this list and make up your mind you want one of them.

King Segis Pontiac Emperor, senior herd sire of A. W. Morris & Sons, right in his prime and a proven sire. A son of King Segis Pontiac out of a full sister to King of the Pontiacs. Three times first prize-winner at the California State Fair.

Lorena Korndyke, a splendidly bred show bull. Four times first prize-winner at the California State Fair, twice grand champion.

A son of De Kol of Valley Mead 2nd, 906 lbs. butter as a 3-year-old, and 1011 lbs. as a 4-year-old, breed record for two consecutive years at age, sired by a son of Aralia De Kol, the first 28,000-lb. cow.

A son of Luit Burke, 32.76 as a junior 4-year-old, sired by Segis Pontiac De Kol Burke, son of Riverside Sadie De Kol Burke.

A son of Miss Blaney, 27.60 lbs. in 7 days, 1008 lbs. in 1 year, sired by Segis Pontiac De Kol Burke.

A son of a 31.78-lb. daughter of De Kol Burke, sired by son of Aralia De Kol.

A son of a 25-lb. 3-year-old, now making over 900 lbs. for the year, sired by son of Aralia De Kol.

And a number of others from high record dams.

SEND FOR CATALOG.

F. L. Morris and James W. McAlister, Jr., Sales Managers

Col. Ben A. Rhoades, Los Angeles, Auctioneer.

The Sale of No Regrets

THE CALIFORNIA HOLSTEIN BREEDERS' SECOND CONSIGNMENT SALE.

175 - Registered Holstein Friesians - 175

Tuberculin Tested.

HANFORD, CALIF., OCTOBER 14th and 15th.

Consignors:

HEWITT & HEWITT, Hardwick.
R. F. GUERIN, Visalia.
W. J. HIGDON, Tulare.
E. A. FAWCETT, El Monte.
ALEX WHALEY, Tulare.
McALISTER & SON.
C. C. LESTER, Gilroy, Calif.,

who is disposing of his entire herd of 65 head.

Bigger and Better Than Ever

You will not regret buying at this sale because the above gentlemen are breeders whose integrity is beyond reproach, and they assure you a square deal.

Their offerings contain approximately twenty-five A. R. O. cows, including a cow with a 29.90-lb. record made as a 4-year-old. A cow with a 24.45-lb. 3-year-old record and others above 20 lbs. in 7 days. And mighty nice individuals!

About 30 daughters of A. R. O. cows, including a daughter of a 30-lb. cow, 2 daughters of the 29.90 lb. 4-year-old, a daughter of the 24-lb. 3-year-old, a daughter of the 24-lb. 4-year-old and 3 daughters of a 22.50-lb. cow.

NOTEWORTHY FEATURES OF THIS GREAT SALE ARE:

15 daughters of Colantha Sir Pontiac Aaggie, the best-bred son of Colantha Johanna Lad, out of a daughter of the first 34-lb. cow, Aaggie Cornucopia Pauline, and nearly all out of advanced registry cows with records ranging as high as 30 lbs. butter in 7 days.

Several daughters of Arcady Pontiac Wayne Hengerveld, a brother to the World's Record Sr., 4-year-old.

A good record granddaughter of the King of the Pontiacs, 164 A. R. O. daughters. An A. R. O. daughter of Homestead Girl De Kol Sarcastic Lad, 104 A. R. O. daughters. A daughter of Johanna Rue Sarcastic Lad, half brother to the sire of the new world's champion. A granddaughter of De Kol 2nd Butter Boy 2nd. A daughter of Lorena Korndyke, the great show bull. A half-sister to Juliana De Kol, former world's record heifer. Two granddaughters of Juliana De Kol. Several granddaughters of King Segis Pontiac Emperor, the best bred son of King Segis Pontiac, sire of the $50,000 bull and $20,000 calf.

WHAT WILL THEIR CALVES BE WORTH?

Look at this list of reference sires and make up your mind they will be worth more than their dams bring.

TILLY ALCARTRA SON, you know him, the coming young son of Tilly Alcartra. DICTER SPOFFORD KORNDYKE LAD, son of a 36-lb. cow. ARCADY PONTIAC WAYNE HENGERVELD and JUDGE HENGERVELD DE KOL 6th, respectively brothers to the World's Champion Sr., 3 and 4-year-olds. PRINCE JULIANA DE KOL WALKER, a son of Juliana De Kol, and sired by Prince Gelsche Walker, the only bull from three generations of 30-lb. dams each and over 125 lbs. butter in 30 days. KING SEGIS PONTIAC EMPEROR 3rd, a son of King Segis Pontiac Emperor and out of a cow with a record of 872 lbs. of butter in a year. Others of almost equal merit.

ABOUT 20 BULLS—Nearly all of which are ready for service, including King Segis Pontiac Emperor 3rd. You know his sire. His dam has a yearly record of 870 lbs. butter from almost 20,000 of milk, and is a half-sister to a 33-lb. cow. Sir Riverside Tommy, out of a 772-lb. yearly record dam. Sir Holland Gamp, one of the greatest show bulls on the Coast and a prize winner wherever shown. A son of King Pontiac Topsy, out of a 28-lb. daughter of Johanna McKinley Segis, the 25,000-dollar sire. This youngster contains more 40-lb. blood than any bull offered on the Coast at public sale. A son of King Segis Pontiac Emperor 3rd, out of a 24-lb. 4-year-old. And many others good enough to head your herd.

For Catalog and Information, write

JAMES W. McALISTER, JR., Sales Manager, Chino, Calif.

Col. Ben A. Rhoades, Auctioneer

1501-3-5 South Main St. Los Angeles, Cal.

Vol. XC—No. 11 Forty-Fifth Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO SEPTEMBER 11, 1915. LOS ANGELES

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Russety Bartletts: A Problem.

The glory of the California Bartlett pear is clearness of its pale golden hue—coinage of California sunshine and dry summer air. When we get other climatic conditions, must we grow pears like other people?

[Written for Pacific Rural Press by Frank T. Swett.]

DURING the past season probably 80 per cent of all the Bartlett pears shipped have been russety. Such pears have been sold at from 25 to 40 cents a box less than smooth, shiny, attractive pears. Although just as good to eat, russet pears do not tempt the buyer. Specimens submitted by me to Prof. Horne of the University showed no indication of injury by fungus. This russet is entirely distinct from the deeper stains and deformations caused by pear scab. It is also different from what we have been accustomed to call thrips' injury. In Contra Costa county, two orchards sprayed with a fungicide added to the lead arsenate spray showed no better results than other orchards. There is a good deal of uncertainty about it all. While the experts at present think it a disease, at the same time the pear growers hope that the Department of Agriculture will put men in the field next season to follow the matter up. It has cost the growers of California perhaps $150,000 this season. And even if it be physiological, like chapped skin of humans, who knows but some one may find a way of controlling it?

As M. B. Waite of the Department of Agriculture at Washington is most widely known as a student of abnormalities in fruits produced by the perversity of their own nature or by disease caused by invading organisms, I took the liberty of submitting the above facts to him. California fruit growers cherish deep regard for Mr. Waite because of the vigor and incisiveness with which he took hold of our pear-blight problem a decade ago and they will be glad to have his analysis of pear russeting and the comfort he and Professor Horne give us that our glorious climate, which produces glorious pears, was merely temporarily off its job and may be expected to return to its normal function and generally to remain there. Mr. Waite's conclusions on russeting in general and our problem in particular are thus set forth in a letter from him dated August 25:

"I have made quite a study at odd times in the course of my other investigations on pear disease of the causes of russeting, and will discuss them in a general way.

"First, fungous russeting. We have a lot of trouble in the East, particularly on late pears, with a little surface growing fungus which scarcely penetrates the outer skin of the fruit and which causes a brown russeting. It is completely remediable by spraying, either with lime-sulphur solution or with Bordeaux mixture. In the latter case a 2-3-50 Bordeaux mixture well applied when the fruit is about half grown will make it safe for the season. I do not believe you have that in California. It comes with our rainy, damp weather of late July, August and early September.

"Second, spray russeting. There are a lot of different types of spray russeting. One type consists merely of enlargement of the lenticels or breathing pores, "yellow dots" of pomological descriptions. There is arsenical russeting and copper poisoning. This varies enormously in different seasons and with the different varieties of fruits, and probably in different sections of the United States. You are no doubt familiar with some of the different types.

"Third, insect russeting. It is evident that you are quite familiar with the russeting by pear thrips. I think there are probably some other mite troubles of this sort besides the regular pear thrips. We have very little trouble of that kind in the East, though one has to be on guard for it, and I have seen very little of it during the three summers that I visited your State.

"Fourth, physiological russeting, or, as I prefer to call it, rain russeting. We have a lot of this in the Eastern States. It almost chronically occurs in the cavity around the stem. It is sometimes spoken of as stem russeting, and yet occasionally Eastern fruit and most Western fruit, as you know, has no stem russeting. It is the water held in the cavity that really causes the cuticle to roughen. Ordinary water russeting or rain russeting is something like chapped hands, the mere scaling and slight cracking of the cuticle. When the whole epidermal layer of cells cracks then you have a deep, rough russeting, which is of course less common but more serious.

"My experience is that rain russeting is much commoner on fruit when it is rain-soaked when small, that is, when the pears or

(Continued on page 249.)







PEAR GROWING IN ALHAMBRA VALLEY.

The views show pear trees in a picturesque coast valley. The edge of the valley with dwarf trees which have probably standardized themselves by rooting from the graft wood: Trees probably over 40 years old, which were too closely planted. A later planting, well spaced, formed and cultivated.

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D. L. SCHRADER - Subscription Manager
R. E. HODGES - - Assistant Editor
J. C. LOOMIS - - Assistant Editor

California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at 5 p. m., September 7, 1915

STATIONS	Rainfall Data: Past Week	Rainfall Data: Seasonal To Date	Rainfall Data: Normal To Date	Temperature Data: Max'm	Temperature Data: Min'm
Eureka	0	.26	.31	66	48
Red Bluff	0	T	.09	96	58
Sacramento	.01	.01	.04	90	54
San Francisco	0	.01	.01	72	54
San Jose	.04	.04	.07	88	50
Fresno	T	T	0	94	60
Independence	0	.04	0	86	52
San Luis Obispo	0	.01	.05	80	48
Los Angeles	0	0	0	86	60
San Diego	T	T	0	76	62

THE WEEK

If we do not get early rains and plenty of them this year it will not be the fault of the prophets. It is announced from San Jose that Dr. Porta, whom a rival recently described as "not knowing a magnet from a cow's horn," has given out a thirty-day weather-forecast, based upon the quadrature of Jupiter, in which he promises the Coast a storm between September 20th and 24th which will rival the disturbances of September 22-26, 1904, when five inches of rain fell in San Francisco. Other storms are predicted to occur on September 8th to 12th, and September 14th to 18th.

This basing fore-knowledge of weather upon a quadrature of Jupiter appeals to us very strongly, because from remote classic times Jupiter has been recognized as the chap who made the weather and, though it may be contended that the ancients hardly knew whether Jupiter had any quadrature or not, it was generally agreed that Jupiter lived where he had manifest advantages in his business of throwing down things on the earth. Relying on this ancient conviction of the race, we advise our readers to stand from under on those dates, because, though we may not be able to tell a quadrature from a cow's horn, we apprehend that it means that this year's September rains may be about four times as lively as usual. It is fortunate that the Weather Bureau, although we suspect it does not have as much respect for Jupiter and his quadrature as we have, is to set a new watch, and notifications of frost and rain during the remainder of the fruit-drying period will be given through the San Joaquin Valley by warnings sent out from the Fresno office in time to protect the stuff on the trays.

For all those who get their fall work along and all stuff now exposed under cover, it will be a great joy to have the rains begin early, and keep at it as they usually do when they are large at first. The abundant water of last fall and winter put the State in great shape, as the 1915 crops have shown. And there is another good thing which the snow and water do. It is announced that, with the exception of one year, the total yield of mine gold in California for 1914 was the highest in fifty years. The value was $20,653,496, an increase of $246,538 over that of 1913. Though the amount may not seem so very large, since greater amounts come in in single ships to pay the debit balances of European belligerents to Uncle Sam, it is a neat sum for a single industry and helps along with the development of California.

Activity in Beet Sugar.

The ample moisture of last winter and the cool, moist weather of spring and early summer may have worked some hardship to fruits, as the interesting article on our first page this week indicates; the conditions surely favored the beets and great field-products and factory runs are being reported. The factory at Visalia closes this week, having paid out $100,000 for beets and $25,000 for wages. and made a product of 40,000 sacks of sugar—three-fourths of which are already sold. Other factories nearer the coast are but just beginning to crush beets, and the coast sections have splendid crops as well as the interior valleys. One grower near Stockton reports a yield of 30 tons per acre on 50 acres—the first shipment of beets from two acres running 17% sugar. On the whole it looks as though the California beet sugar industry might be rehabilitated just at the time it was expected to expire, because the rest of the world has shown us that America must depend upon American sugar and get into the world's trade also. This seems warranted as an outlook because the government seems to be awakening to the fact that our sugar interests cannot be sacrificed. E. F. Bishop, an Hawaiian sugar leader, has said this: "Free sugar would mean the shutting down of many of the plantations in the islands. I base the statement that there will be no free sugar on the fact that there is now a deficit in the national revenues and that a larger one stares the administration in the face next year. Sugar brings in a revenue of $50,000,000 a year in duties, and that is no small sum in such an emergency."

A fair tariff on sugar will of course do much more for the country than help the government out of a financial hole, and help it to get into a proper condition of preparedness in case war should be forced on us. The best thing about it, of course, is that it keeps our fields and factories busy and pays wages to our own people rather than to other nations. These facts we believe the coming session of Congress will fully recognize.

Requirements of Fruit Varieties.

As the planting season approaches it is interesting to consider the selection of varieties of the kind of fruit one desires to plant. Though it is an adaptation of a very old phrase, it is very true to say that a new variety of fruit, to justify commercial attention in California, must not only be good but must be good for something. Unless it has demonstrated with reasonable certainty that it has some specific character, quality, behavior or ripening season which meets a definite demand, or fills a lack recognizable by our fruit shippers, driers or canners, it should not be planted on a commercial scale, and therefore should not be pushed by nurserymen, except for trial plantings. California planters have sometimes lost money through the aggressive pushing by nurserymen of varieties not fully tested out in this State—not alone with reference to their growth and productiveness under our conditions, but as to their suitability for our commercial purposes. Our California nurserymen may be guilty of this unwise policy to some extent, but it is generally distant propagators who urge large California planting of varieties which they have found desirable in other parts of the country. Their argument is that if a new variety is good elsewhere, it ought to be much better in California. This is complimentary to our conditions and to a certain degree the compliment is justified, but the commercial requirement is, as stated above, that a new variety shall not only be good but good for something—in fact, good for several things, if possible, for such wide fitness is an element of safety in planting, but it must be specific fitness even though there are several forms of it.

Local Varieties Well Tested.

While it is perfectly true that with some fruits, as for instance the peach, plum and almond, some of the varieties which constitute our chief product are of California origin, it should be remembered that these varieties had from ten to twenty years' local trial before they were largely planted commercially and their characters and behavior were fully determined. It is probably true that for every one of even these local varieties which now prevail there were a score of other local varieties which gave partial evidence of suitability to our uses but had to be rejected for some point of failure. This being the case, one can learn from it the risk of planting of varieties perhaps notable elsewhere but which have had no local trial whatever.

These facts would seem to indicate that California nurserymen should be very critical and conservative in their judgment of new varieties, of whatever origin, and should urge them upon planters only for trial in a small way. These facts also justify them in their present attitude and policy to propagate and urge upon planters fewer varieties and those which have made good on commercial account. They should continue to do this even though enthusiastic plungers in fruit planting should charge them with lack of enterprise in not offering great new things. New things are not great until they are locally demonstrated to be good for something in our commercial category of fruit uses.

Another reason why new varieties do not figure more largely in California fruit-growing is the smallness of the amateur interest. There is, in fact, almost an absence of pure amateurs, enthusiastic, critical, discriminating, athirst for novelties. Even suburban planters follow the lead of the commercial orchardists and plant chiefly what has been adapted to local growing conditions, and few are averse to making what they can by sale of small surpluses. The result is that California fruit growing is almost wholly commercial in spirit, policy and point of view, which is perhaps only natural in a state where the fruit products reach an annual aggregate value of something like one hundred millions of dollars. The effect is to concentrate attention upon varieties which have achieved fame for profit, and to repress amateur devotion and indulgences.

At the same time there is and always has been quite a disposition toward trial of novelties among commercial growers, especially mani-

fested in search for specific characters, which are seen to be desirable rather than desire of newness for its own sake, which is often a point of pride among amateurs. To this enterprising and discriminating search is due the prominence of some of the leading varieties, which are chance seedlings recognized as meeting special requirements and grown great because they really did so.

Better Forms of Tested Types.

The California grower is quite certain that he needs not varieties new throughout and of startling characters, but improved types of varieties which hold the good points of the old and add other points. For instance, he calls for trees resistant to disease and more regularly productive; for improvement of the fruit in beauty, flavor and keeping qualities; for varieties, similar in kind, which fill gaps in the ripening season, so that he can employ help continuously; and shippers and canners agree with him, so that they can keep the cars moving and the cannery plants at work. The experienced grower knows he must be careful not to plant largely something different from what is already growing and selling well in his region, and this is also the advice of the trade to him. He cannot risk much on varieties of entirely different types, although most growers are always doing a little experimenting. Nor should he undertake too many varieties, because a profitable orchard is not a pomological museum. There must be a large quantity of uniform fruit to make any district commercially prominent.

Many Varieties Not Desirable.

For these reasons the number of varieties now planted largely in California is much smaller than it was a quarter of a century ago, and, stopping at this point, one might get the idea that the California grower was a monument of conservatism, and lacking in enterprise and adventure. It is a fact, however, that he has very definite ideas of what he wants that is new, and that he has problems enough to keep plant breeders busy for a century. These are chiefly better manifestations of particularly desirable characters which California growers, shippers and canners have found to be desirable. Such observations from men who have their livelihood and fortunes involved in profitable growth constitute the specific requirements of new varieties in California, and they are not vain imaginings but deeply felt wants.

These facts make it quite clear that it is the duty of propagators to multiply only the best types of the varieties they undertake; to assure themselves of the demonstrated excellence of the sources from which they take buds and scions, and to become, as far as possible, critical and conscientious pomologists as well as trade leaders. The nursery is the foundation of the orchard and the fruit trade, and it must be sound and true in all the requirements of science and morality if our fruit production and commerce are to reach their widest and most prosperous development.

A New Creamery.

According to Farm Adviser E. O. Amundsen, it is intended to get into operation a creamery at Auburn, under the management of a University Farm graduate, to gather cream from surrounding territory and thus aid farmers having a few cows and to increase the number of cows, etc.

Queries and Replies.

Querists must give name and address.

Russian Thistle Helps Alfalfa.

To the Editor: Here in Fallon (Nev.) many new settlers have had a hard struggle getting their first stand of alfalfa, due to the sand blowing and drifting and the hot sun burning the seed and tender roots. In places where the Russian thistle has existed, it has proved the best policy to drill the alfalfa among the young thistle, thus using the thistle as sort of a nurse crop. The thistle shades the soil and prevents the sand from blowing; also helps hold the moisture till the alfalfa gets its right start. Then the alfalfa will crowd out the thistle.—C. Barnum, Fallon.

This is interesting. The chief objection to a nurse crop is the exhausted soil moisture, which takes place during the maturing period of the grain, though too much shade may result also. Russian thistle is more gentle than grain in the matter of shade and thirst, and therefore may be a better nurse crop than grain. As it is an annual it can make no strong fight against alfalfa. The experience is unique and may have a bearing on the general disfavor of nurse crops for alfalfa, which are general grain crops. Possibly some other plant less objectionable than Russian thistle may serve the same purpose. It is interesting, however, to know that the Russian is good for something besides sheep-feed.

The Pepper Tree as a Windbreak.

To the Editor: Kindly give me information on the pepper tree (Schinus molle) for windbreaks. Where could I get the trees and is it practicable to grow them from the seed?—S. A. C., Corning.

The pepper makes a dense windbreak and was formerly largely alternated with blue gums to make both a high and low windbreak in the citrus districts, but some years ago it fell into disrepute because of the love of the black scale for it, and planting was reduced. We are not sure that the sacrifice was warranted; certainly the tree is regarded as one of great beauty in regions where there is no heavy freezing—for the tree is about as hardy as the blue gum. Any nurseryman handling ornamentals can furnish any quantity. The tree is grown from the seed without special difficulty.

Have a Reason for Spraying.

To the Editor: Should one-year-old peach and cherry trees be sprayed this fall?—F. B., Veterans' Home.

It depends upon whether there is any pest or disease affecting them for which spraying is a remedy. More than that, you have to know what the pest or disease is, so that you can select the proper spray. It is not a question of the age of the tree: it is a question of whether anything is biting it or not and if yes, what is doing it.

For a Fall Feed Crop.

To the Editor: Is it too late to sow German millet? If so, what would be a good crop to sow this late? We will have about three months to make hay before a freeze.—J. A. L., Yucaipa.

German millet, or Hungarian grass, does not like dry heat. All accounts we now have do not favor it for California interior situations, at least. If you were sure of three months' frost freedom, you could get quite a growth of sorghum for dry forage, if thickly broadcasted and cut with a mower—but it would not take much of a frost to knock it out. Oats and vetch sown together are more hardy and make a good hay. Or you can put in rye for green feeding during the winter. It will grow with less heat than most wild forage plants.

For Fall-Sown Cover Crop.

To the Editor: Is it practicable to raise a crop of cowpeas (black eye) for green manuring this fall? Part of the ground can be irrigated. I have raised a crop of black eyes on part of it for seed; part is in irrigated cane and sweet corn. The land is a sandy loam with a clay element. It has been small-grained for fifty years. When plowed four to five inches deep it packs badly. This is my first season here. Some of my neighbors do not cultivate cane and corn after irrigating and have a good growth.—T. H. V., Oakdale.

If you can count on freedom from frost until the holidays, you might get a good deal of stuff from cowpeas to plow under, but that is pretty risky in most places; and a hardy legume, like vetch, or melilot, or burr clover, is safer, and you can let it grow until March, unless you wish to put in some other winter crop before that time. Some of your neighbors must have pretty sandy land, or they are doing pretty poor farming.

The J. H. Hale Peach.

To the Editor: I send you a sample of J. H. Hale peach from a tree planted in April, 1914. It was advertised extensively as being "as firm in flesh as a cling," but is a perfect freestone, and has no claim to be classed as a cling. Another drawback is the flesh is red around the pit and discolors the syrup when canned. What do you think of it? I feel inclined to graft them over to the Tuscan cling.—S. H., San Jose.

It is a full-sized, globular, high-colored peach, and on the fresh fruit market should sell well unless it comes in seasonal conflict with some other variety we now have, which is also good for other uses than selling fresh. It has color at the pit, but we are growing other varieties with that character, which are used also for drying. You were evidently misled by the statement that its flesh was "firm as a cling." Every experienced grower ought to know that no freestone has the flesh-texture of a cling, and cannot serve the same purposes even if the flesh is "firm." Those advertisements had the Eastern and Southern conception of firmness, which is different from the California conception of it and its uses. As for the pit-points, something in your specimen was worse than the color, and that a tendency to decay at the pit, but one cannot safely judge a fruit from one specimen. This peach may prove very valuable in this State, but no one should plant this or any other variety, largely, until demonstration of its characters and suitabilities are established by local trial on a small scale.

Grape Grafting.

To the Editor: I have about 40 grape vines of the Sweet Water variety that do not do very well. Can I not graft other kinds into them, say Muscats; if so, when is the best time?—W. W. C., Mesa, Arizona.

Yes; if your old vines are thrifty. Saw off the vine below ground several inches; use a long scion to bring one bud above the surface. Stake the shoot from that and let it make all the growth it will next summer. Cut it back the following winter to the point where you desire the head of the new vine and remove all shoots below that point. Such grafting under ground needs no waxing. It should be done as growth is starting in spring. The bleeding does no harm as the surplus can escape.

Another Year of Citrus Co-operation.

The Report of the California Fruit Growers' Exchange, which handles 62½ per cent of our citrus products, shows progress and masterly control of marketing problems amid perplexing conditions.

From the report of G. Harold Powell, manager, for the citrus year ending August 31, we prepare the following condensed account of past achievements and plans for future operation.

Citrus Shipments. — There were shipped from California during the year ending August 31, 1915, 40,991 cars of oranges and 6,667 cars of lemons, making a total of 47,658 cars. The Exchange shippers forwarded 24,217 cars of oranges and 5,565 cars of lemons, consisting of 9,640,977 boxes of oranges and 2,244,617 boxes of lemons. The returns f. o. b. California, estimating the few cars unsold, will be about $19,537,850; the delivered value in the markets is approximately $30,000,000.

The Exchange shipped 62½ per cent of the total shipments, representing the largest volume as well as the largest proportion of the total crop ever handled. There has been a gradual increase in the proportion of the total shipments handled by the Exchange since its organization. Ten years ago our growers forwarded 47 per cent, five years ago 59 per cent, and three years ago 60 per cent of the total crop.

At intervals during the year, each association estimates the size of the coming crop in the orchards of its members. During the last two years the estimates have varied less than 1 per cent from the shipments.

The Cost of the Exchange Service.—Our shippers paid approximately 4¼ cents per packed box to distribute and sell the crop to 2500 jobbers in the United States, Canada and other foreign countries, or 1⅔ per cent of the delivered value of the fruit. They paid approximately 2 cents per box, or less than 8-10 of one per cent additional for national advertising to increase the consumption of citrus fruits, to popularize the "Sunkist" brand, and to bring the shippers into closer working relations with the jobbers and retail dealers. In passing it may be interesting to note that national advertisers of food products often expend 10 per cent or more of the value of the product for advertising purposes. The total cost of distribution, marketing, advertising and dealer-promotion work, including the general service furnished the shippers by the central office, averaged 6¼ cents per box or 2.46 per cent of the delivered value of the fruit. The average cost of the district exchange is 91-100 of 1 per box, making the total average cost of the Exchange and district exchange service, including the cost of advertising, 7 16-100 cents per box. The Exchange service, which is an evolution of 20 years of existence, is not only less expensive, it is more comprehensive than any other crop-marketing service yet developed.

Oranges and Grape Fruit in 1914-15.—There was an increase of 19.1 per cent over the largest preceding season in the total volume of oranges and grape fruit shipped from December to February, inclusive, in 1914-15, from Florida and California, the average shipments from the two state equalling approximately 275 carloads per day during this period. This increase, in addition to 2,000 carloads from Louisiana and Porto Rico, had to be consumed in the face of the most disastrous business depression that affected both the American consumer and producer. It also had to compete with the largest crop of American and Canadian apples ever produced, which sold throughout the winter at disastrously low prices.

Extreme cold weather prevailed early in December which froze much of the fruit in transit and paralyzed the holiday trade. It gave the consumer inferior eating oranges soon after the season had opened so auspiciously and turned him to other fruits during one of the most desirable periods of the year. A similar severe cold period occurred in January which still further interfered with the sale of fruit and damaged a large number of cars in transit, costing the growers in some districts more than half the cost of producing all the fruit they shipped during February.

The table following shows the number of carloads of oranges and grapefruit shipped from Florida and the oranges shipped from California from December, 1914, to August, 1915, inclusive:

Florida and California Shipments,—1914-15.

	Florida	California	Total
December ..	5170	4668	9838
January ...	3538	3197	6735
February ...	4157	4753	8910
March	3709	5852	9561
April	2656	6556	9212
May	1229	5666	6895
June	241	3097	3338
July	6	1362	1368
August	——	850	850

There was an increase of 33.8 per cent in the volume shipped in December, 1914, as compared with December, 1913, and an increase of 27.4 per cent in February as compared with February, 1914. This increase in volume, with the low retail prices that prevailed, increased the per capita consumption, and affected the prices received during the latter part of the season.

The Effect of Publicity.—In March under better climatic conditions the decay disappeared and market began to improve. This improvement was accelerated by the national publicity given Orange Day, March 20th. Orange Day was recognized by the Governor of California and by many of its leading institutions. It was given a national publicity at that time by publishers, railroads, express companies and other organizations. Through the co-operation of the Exchange with the publishers and with the trade, more than 250 pages of orange advertising appeared in the newspapers on Orange Day. It was "bargain day" in oranges, supplies that had accumulated were cleared up and the markets thereafter readily absorbed the fresher, newer stocks. Comparatively satisfactory prices were received in April and May, and 26 per cent more oranges and grapefruit were consumed in April than in 1914. The almost universally low margins of the jobbers and retailers during the winter and spring months gave the consumer navel oranges at reasonable prices and formed a greater orange eating habit than the people have ever acquired before. The better condition of the later market brought the average on all navel oranges higher than the average of the previous year.

The effect of national advertising, coupled with a somewhat smaller crop than in 1914, has been a leading factor in making one of the most satisfactory Valencia seasons in recent years. The trade has learned that the Valencia is comparatively free from decay; that it is the only summer fruit that can be handled without excessive loss; that it can be shipped into the country towns and to the mountains and seaside resorts. The good color and eating quality of the Valencia, and the freedom from decay, have combined to give the growers of the Sunkist Valencias a splendid financial return.

The Lemon Season.—The California lemon crop increased 132 per cent over the crop of the preceding year. The factors which affect the lemon market differ from those governing the sale of oranges, because the general use of lemons in the summertime depends primarily on climatic conditions. Americans use lemons most freely in cold drinks in hot weather. They use them in a comparatively small way throughout the year for culinary and other general purposes.

Unlike the orange, a low retail price will not greatly stimulate the use of lemons in the summertime. Then temperature is the controlling factor, and if the weather is generally cool, the consumer demand is missing.

The most striking factor in the lemon situation this year has been the abnormally cool weather that has prevailed over the United States since the middle of May. Twice only since the last of April has the average Eastern temperature reachel the normal; twice only since the last of May has the Central temperature reached the normal, and at no time since the last of May has the average temperature reached the normal in the Western section of the United States. The wholesale and retail prices of lemons have been unusually low, but neither the jobber or retailer has been able to move the fruit freely because the consumer will not use the lemon as a beverage when the weather is cold.

The War.—When war was declared in 1914, it was generally believed by the trade that imports would be stopped. Wholesale and retail prices rose to abnormal figures in the fall, the trade had no advices of importations and the dealers stocked up for the future with high priced fruit. But imports were not stopped. Italian lemons were shipped here in the usual quantities in the fall. The wholesale price dropped $3.00 per box in thirty days, but the wholesale and retail trade had large supplies of high-priced foreign and California lemons on hand. These high-priced supplies in the hands of the jobbers and retailers prevented a free distribution of the fruit for many weeks.

What Tariff Reduction Did.—The United States has been supplied with the lowest grades of Italian lemons in recent years on account of the usual continental-European markets having been largely cut off by the war. Whenever it was figured that overhead charges could be realized a flood of foreign lemons has resulted. The reduction in the duty of 1 cent per pound in 1912, reduced the overhead charge on foreign fruit 72 cents per box. These factors have resulted in the lowest prices for foreign lemons in New York probably in the history of the importing business. For the year ending June 30, 1910, the average selling price of imported lemons in New York was $2.90; in 1911, $3.55; in 1912, $2.88; in 1913, $4.38; in 1914, $3.11 and in 1915, $2.02 per box. The New York price of foreign lemons for the fiscal year 1915, which is a leading factor in establishing values throughout the country, is only slightly more than the average cost of producing and placing a box of lemons on the cars in California.

Good Fruit Wins.—At no time in the history of the industry has the advantage of all the details of skillful fruit handling been so strikingly illustrated as in 1915. Some of the California shippers have forwarded their entire crop without loss from decay, with satisfaction to the trade and the consumer and with profit to the producer; while other shippers, through lack of equal efficiency in fruit handling, have been unable to ship fruit of sound merchandising value or return a profit to the growers.

By-Products Company.—The Exchange lemon shippers have organized a company to manufacture by-products from the lower grades of fruit. The plant is under construction and the business will be handled on a co-operative basis, the growers receiving the full returns for the by-products after the cost of operation is deducted. From one and one-quarter to one and one-half million dollars' worth of lemon oil, citrate of lime and other lemon by-products are imported annually into the United States. These products can be manufactured successfully in California from the lower grades of fruit that are not worth shipping, as well as from fruit that demoralizes

THE United States, for the first time in its history, now leads the world as an exporter. Figures made public August 27 by the Bureau of Foreign and Domestic Commerce show that American exports in the fiscal year ended June 30 last totaled $2,768,000,000, compared with $2,170,000,000 for the United Kingdom, the next largest exporter. This was an increase of 17 per cent in the case of the United States, when compared with last year, and a decrease of 30 per cent for the United Kingdom.

American exports included domestic products valued at $2,716,200,000, against $2,239,700,000 in 1914; and foreign products, $52,400,000, against $34,900,000 in the preceding year. British exports included British and Irish produce, $1,734,100,000, against $2,577,200,000 in 1914; and foreign and colonial produce, $426,000,000, compared with $526,500,000 in 1914.

the markets because of its inferior quality.

Increasing Consumption of Lemons.—There are 20,000 acres of lemons in California four years old or under which will soon come into bearing and will double the supply of domestic lemons. Including the foreign lemons, it will be necessary to increase the lemon consumption in the United States and Canada from 75 to 100 per cent in the next few years. This can only be done by increasing the consumer demand. Production cannot be curtailed because the groves are already planted; and the crop can be successfully sold by the grower, the jobber and the retailer only when the consumer demands it. The advertising of Sunkist lemons as a separate campaign from Sunkist orange advertising has been adopted by the board of directors as the basis for the future lemon sales plan. New uses of lemons will be suggested to the public, and the consumer will be educated to the advantages of the lemon as a healthful product, in a greater number of culinary uses, in toilet uses, and in beverages, so that lemons will be used more generally throughout the year.

The Fruit Growers' Supply Company.—The Fruit Growers' Supply Company has transacted a business of $3,300,000 for its members. The value of packing house materials supplied the associations will equal approximately $2,440,000, or $400,000 in excess of last year, while orchard supplies, on account of the elimination of the oil and orchard heater business, will be correspondingly reduced. The Supply Company has furnished 12,000,000 boxes, or 2100 carloads of box shook; 16,500 kegs of nails; $236,675 worth of fertilizers; 1,500,000 pounds of cyanide of sodium; 420,000 pounds of cover crop seed.

Increasing Demand for Citrus Fruit.—The orange and lemon crops of California have increased from 5 to 20 per cent or more annually for many years; the lemon shipments during the present year are three times as large as two years ago, and twice as large as last year. Population increases on the average 2 per cent annually, but production continues to increase without reference to demand and without relation to the increase in population. In addition to 20,000 acres of lemons, there are 21,000 acres of Valencia oranges and 43,500 acres of the Washington Navel variety, 4 years old or under, which, in the next few years, will double the lemon and Valencia crops and increase the Washington Navel shipments.

The problem of the Exchange therefore is to create a larger consumer demand and then to increase the efficiency of our sales efforts with the jobbers and retailers so that our oranges and lemons may be widely distributed and placed in the consumer's hands at reasonable prices. We cannot curtail production. We must sell whatever our growers bring forth. Our sales efforts must be broad enough to move the crop under adverse, as well as under normal conditions. The Exchange, in having the stability of the industry largely in its charge, has no alternative. Through a national campaign of education it must continue its efforts to increase the consumer demand rapidly enough to keep pace with production. If we can increase the consumer demand, the problems of wholesale and retail distribution that confront the industry in California and in Florida are solvable; if consumer demand is not increased commensurate with increased production, no sales efforts on the part of the Exchange or any other shipper, the jobber or the retailer can move the crop at satisfactory prices.

Cherries in Modoc County.

To the Editor: I now have in my orchard five very large, thrifty cherry trees, aged about 14 years, which have never yet furnished me a cherry. They bloom nicely and the cherries hold on until size of peas, then fall. They were sold to me for the Black Lamberts. I have been told to drive rusty nails in them to make them bear; also to put old rusty irons around the roots; or when in heavy bloom to give them lots of water. Please give me your idea on such doings. Do you think a big locust tree standing near would affect their bearing? My orchard is a dry land orchard and does nicely without irrigation if given plenty of summer cultivation.—G. W. C., Standish.

[Answered by D. E. Alvord of Cedarville.]

I am about one hundred miles north of the place in which your correspondent is located. The climatic conditions are very similar, however, and I may be able to give you some information which will be of value in determining his difficulties.

The soils in Modoc and Lassen counties vary considerably within short distances. His soil may lack the element most necessary in the production of cherries.

This is a semi-arid region with a very dry atmosphere through the months from June to October. The cultivation of the soil in this region must be carefully done, and at the proper season in order to prevent evaporation. Spring plowing and cultivation has a tendency to permit rapid evaporation and drying out of the soil. Fall plowing and cultivation is decidedly the best for the conditions we have to meet here. Mulching of the trees is essential for best results. This may be done with straw or stable manure.

It has been my observation that irrigation at time of blossoming is very beneficial if it is at all possible to procure water at that season. Your correspondent's method of pruning may have some effect upon the bearing of the fruit. He may have a variety of fruit tree that is not self-pollinating. Perhaps his trees do not run true to name and may be entirely different than he believes.

His question concerning the large locust tree near the cherries suggests to me that it might affect the moisture at a critical period in development of the fruit. Particularly where he is dry farming and moisture is at a premium.

In Surprise Valley, where I am located, all the sweet cherries thrive and bear excellent fruit every season, barring a loss by frost at a time when the fruit is very tender. The varieties grown here are Lambert, Black Republican, Black Tartarian, Royal Anne and the Morelloes.

I cannot think of any other considerations at this time that might have any bearing upon his problem. I have never seen an instance where the crude method of driving rusty nails or placing of scrap iron about the roots had any effect upon the bearing. This is a natural region for growing of sweet cherries, and your correspondent should have no difficulties by following the approved methods.

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Melilotus Makes Fine Cover Crop.

[Written for Pacific Rural Press.]

After raising citrus crops for twenty years, A. W. Mueller put in his first cover crop last fall, and had a splendid stand of melilotus on his gravelly soil near Upland on March 1 last. It was beautiful to look upon, but wet to pick in, for it was well over knee high, standing straight up between the rows. It had not been sowed between the trees within the rows because that would necessitate two weeks earlier plowing in one direction so that the vegetation would decay enough to interfere with the cross plowing. Though the seed had not been treated with bacteria, there were large numbers of small nodules on the roots. Mr. Bartholomew, who lives across the road and has raised melilotus a year or two longer than Mr. Mueller, had larger nodules, though probably not more of them. His stand, however, was rather uneven, being highest and thickest close to the branches of the trees, where it was hard to turn under. This uneven stand was largely due to the fact that he sowed it a month later than Mr. Mueller last fall.

About the first of March, the latter gentleman dragged down the cover crop in his younger orchard so that it would not be so wet to pick, so it would turn under easier, and so that the blood fertilizer he expected to apply might be distributed more evenly. Three tons of blood, 14 per cent nitrogen have since been applied to the ten acres, about nine pounds each to the larger trees.

This crop has been watched by a half a dozen of Mr. Mueller's neighbors who have decided they will plant some next fall.

Recommended by Expt. Station.—It was due to the recommendation of the Citrus Experiment Station for melilotus in the heavier soils, that Mr. Mueller last fall decided that he would try it on his gravelly soil. The Station people were doubtful, but recommended twenty-five to thirty pounds of seed per acre. It was sown at the rate of about seventeen pounds per acre because the spaces between the trees were left bare, and because the trees covered so much of the ground. The seed are very small, like clover and the plant grows erect without stooling. It requires moisture at the start and not too much hot weather when it first comes up, as the hot sun would cook it. Immunity from chickens is also desired, for that section close to the chicken yard in Mr. Mueller's orchard has a rather thin stand.

In the Upland district, each orchardist gets his irrigation water once a month. Mr. Mueller's came about September 12, after which the soil was allowed to dry enough to work well. The furrows were then closed and the space cultivated, then the seed was broadcasted, five or six days after the irrigation, and harrowed. Furrows were plowed for irrigation, and a light rain after the first of October, two weeks after the seed was sown, is credited with much of the successful stand. Another irrigation came October 12 and an extra run of water late in the same month, then rain took care of it for the rest of the winter.

Only about one-fourth of the growth was made before February, when it seemed to jump out of the ground. Nevertheless, both Mr. Mueller and the Experiment Station emphasize the need of early sowing if the ground can be kept moist.

It was noticed that the melilotus was taller in the west end of this 10-acre orchard where the trees were younger than the east end where they are 20 to 25 years old. The ground was shaded more and was, therefore, kept in better condition of moisture so that the seed started more quickly, but later in the season the extra warmth and sunshine between the smaller trees gave the cover crop there the advantage.

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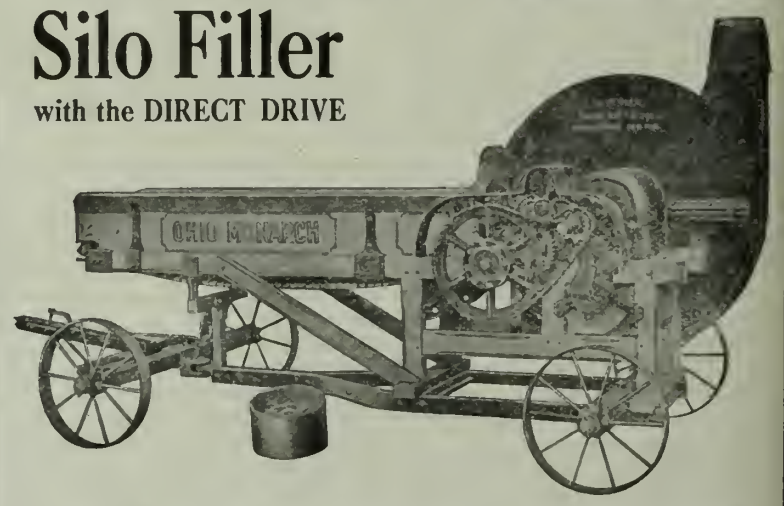
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SAN FRANCISCO, LOS ANGELES.

Horticultural Inspection Saves Fruit.

[Written for Pacific Rural Press.]

At the county horticultural commissioners' meeting which preceded the regular Fruit Growers' Convention, insect, fungus, and bacterial diseases were the main topics. Prof. A. L. Melander of Washington has been misquoted as saying that tremendous loss to the growers and increased prices to the consumers have resulted from horticultural inspection of infested fruit. He told of many instances which came under his observation two or more years ago in the State of Washington, where fruit was condemned because it harbored pests which could not under any circumstances have become dangerous to the horticultural interests of that state. For instance, citrus fruits harboring distinctly citrus pests were destroyed, ostensibly for fear of endangering the horticulture in a state which grows no citrus fruit at all. Instances have been known where wormy apples were condemned on the city markets and destroyed, though in the country roundabout the orchards had to be sprayed for codling moth anyway. Such measures are not adopted in California, and the policy of the horticultural commission is to quarantine, return, or destroy only those plants, fruits, or vegetables which would become a menace to the agriculture of our State. As an instance of this, the eel worm quarantine on Nevada potatoes of a few years ago, while it effectually kept infested potatoes out of the State, did no good because California potatoes in practically all producing sections were affected as badly as Nevada potatoes. Therefore, when this fact was learned, the quarantine was lifted.

PROPERLY DRUM-PACKED GRAPES.

Table grape growers of the State who may be contemplating putting up a portion of their pack in kegs with the use of redwood sawdust as a preservative may be interested in knowing that the cost of the package, the sawdust and the labor is about 90c per keg. Freight and refrigeration to Chicago amounts to 71c per keg.

Last year some of the grapes packed in this form sold as high as $2.50 per keg f. o. b. California. This price, however, was subject to considerable fluctuation, and where the grapes were consigned they brought various prices according to their condition when the keg was opened.

The keg contains about thirty-five pounds of grapes, and the mode of distribution has been largely through commission merchants and the agencies established in the East by the large fruit shipping concerns of California.

Although a great quantity of table grapes was packed in this fashion last year, the distribution by this means may still be considered to be in an experimental stage.—State Board of Viticultural Commissioners, E. M. Sheehan, Sec'y., Aug 28.

[In our issue of May 8, 1915, is an article containing notes of interest in regard to commercial aspects of keg-packing, and in regard to the best methods of packing.—Editors.]

IRRITATED BY EXTRACTING.

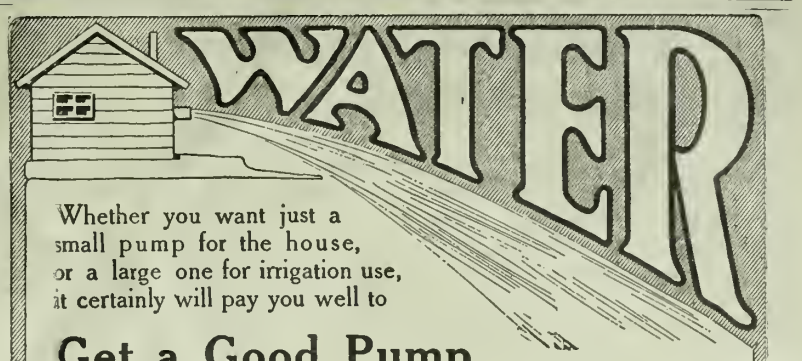
To the Editor: Our attention has been called to an inquiry, page 123 of your issue for Aug. 7, 1915, in regard to poisoning when extracting honey. This irritation comes no doubt from the propolis or bee glue, which the bees deposit in cracks and crevices in the hive, and which is to be found, of course, on the frames containing the combs to be extracted. To some this propolis, or some varieties at least, is somewhat poisonous. We are sending you under separate cover a copy of the June 15th issue of "Gleanings in Bee Culture," in which you will find an article by C. R. Parks on propolis poisoning and several remedies which Mr. Parks has tried and found to be valuable.—H. H. Root, Medina, O.

[Thank you for the reference. Mr. Parks found that this application was very satisfactory: It is a powder—camphor, half a drachm; oxide of zinc, one ounce; starch, one ounce. Dust the affected parts well, and, unless it is a severe case, relief and cure will be the result. This powder can be used about the eyes and other tender portions of the body without irritation; but it is well not to get it into the eye.

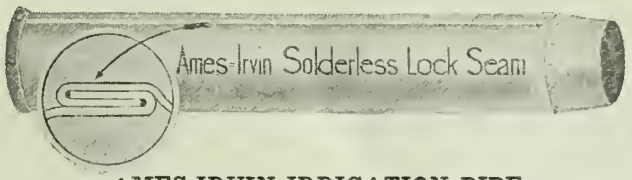
Covering the hands and wrists with soap before working in propolis aids in preventing poisoning, and assists in removing propolis from the hands.—Editors.]

Paso Robles almond growers are harvesting a much larger crop than was first expected.

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Mechanical Power on the Farm.

WHAT A CANADIAN DID WITH HIS AUTO.

After driving a 1912 Overland touring car more than twenty thousand miles over the rough roads of Saskatchewan, A. W. Bell, a native of Saskatoon, conceived the idea of putting it to work on his farm. His theory was that if the car could stand three years of traveling over the so-called roads of that section of the country, it could go a step better and do the practical work.

The auto was converted into a tractor by the simple arrangement of putting in an extra axle under the frame, two feet in front of the rear axle of the car, on which were placed two binder wheels. After removing the rear wheels of his car, Bell replaced them with small sprocket wheels which were connected with large sprockets on the drive wheels by a chain. This reduced the speed of the car and gave it more power.

Practically all of Bell's neighbors who were interested in his experiment, believed the scheme to be impractical. They tried to convince him that the engine would heat up too much and declared the gears could not possibly stand the continuous strain.

But, although the machine has been in almost constant use throughout the summer, no trouble has been developed. It has been run as many as fourteen hours a day, drawing a set of discs and a set of sixteen fast harrows, without even needing a fresh supply of water.

Bell states that he was able to seed thirty acres a day or harrow from sixty to seventy acres with his automobile. By drawing the twelve-inch bushers, he managed to break five acres of soil a day, or the equivalent to the work done by six or eight horses.

The car consumed just seventy gallons of gasoline to put in the crop. The saving in time and labor was another important item.

It took less than an hour to change the rigging of the car, so that at any time when its owner desired to make the trip to town all that was necessary was to take off the farm equipment and transform the machine into a full-fledged touring car.

SATISFACTORY CEMENTING OF DITCH.

To the Editor: I was interested in the article from "E. L." in regard to his ditch trouble in the issue of the Rural Press of August 14th. I have had a little experience with similar ditch trouble. A neighbor and I have a long ditch built on a levee. There is a good deal of alkali in the soil, so it was real easy for the gophers to get a hole started and then the water soon did the rest.

In 1911 we put in about 300 linear yards of cement, about 7 ft. surface, at a cost of 50 cents per running yard. We mixed the first coat 5 parts sand to 1 of cement, plastered that on the sides and bottom about ¾-inch thick; then put on a second coat, 2 parts sand and 1 cement, about ¼-inch thick. The cement cost about $13 per ton net; sand did not cost anything. We allowed ourselves $2 per day for all time put in.

The next year we put in about 30 linear yards more of cement. That we mixed, the first coat 7 parts sand to 1 of cement, and the second coat 3 parts to 1 of cement. We put the first coat a little thicker than we did when we mixed 5 to 1. It is as satisfactory as the first year's work.

The result has been no trouble from gophers, weeds, or seepage, and no expense for repairs on the part of the ditch that was cemented. The ditch is almost four miles south of Hanford, Cal.

I will be glad to answer any questions in regard to the work if this statement is not clear enough.

Hanford, R. 6. C. R. Watson.

STEEL PILING FOR DITCH-CORE.

To the Editor: In your issue of August 14th I note E. L. of Winton asks for suggestions covering a means to prevent burrowing animals from working through his irrigating ditch banks and causing them to fall.

I believe the least expensive and most efficient plan will be to use steel-sheet piling. Most any sheet metal works, equipped to bend and form fairly heavy steel sheets, will be able to form the edges of the piles so that they will interlock. The formed edges will tend to stiffen the piles and prevent buckling while being driven into place. As the narrower these piles are the stiffer they will be, comparatively light gauge metal can be used. A cast iron drive head, made to fit well down over the top end of pile, will pre-



Everybody's Interested

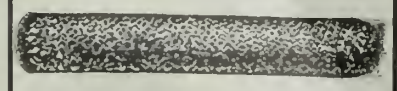
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WRITE FOR CATALOGUE AND PRICES

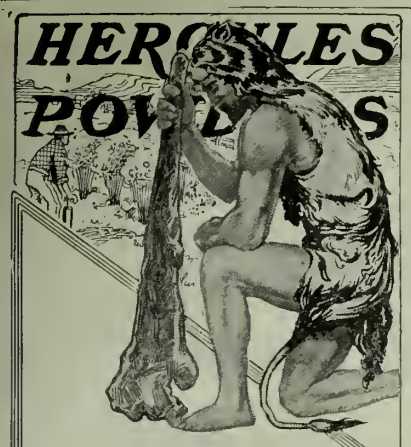
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Formerly it was necessary to fertilize such land heavily every year—a method of cultivation entailing considerable waste in money and effort. Why? Because the hard stratum caused much of the valuable fertilized top soil to be lost by erosion.

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vent any damage from the driving mallet.

The piles will be less costly than lining the ditch with concrete and probably more durable and less liable to damage from any source. If, after the first lot of piling has been put in, it is found necessary to add to the original lines no expensive equipment will have to be used—a few men, some piles and a couple of mallets will do it.

Theo. Poindexter.

San Francisco.

WATER FOR 20 ACRES, $1.40.

[Written for Pacific Rural Press.]

"Why are you pumping here where the Government irrigation ditch runs so close?" we asked of Adam Lachenmyer, who lives close to the Orland project.

"Well, here are 35 acres of oranges set out a year ago in June and interplanted with beans and Gyp corn which must be watered regularly, but we are outside of the Government project."

The orchard is a little over three-quarters of a mile long and 14 trees wide. Fifteen acres at the far end are planted to corn, but are unavailable for irrigation from the pump on account of a sag in the middle of the orchard; so the trees are watered in little basins from a tank wagon which is supplied by another engine-driven pump at the other end of the orchard.

The ditch runs the full length of the upper side of the remaining 20 acres, on which the water is run in furrows from the orchard. It requires just a day on this deep clay soil for the 5-inch centrifugal pump with a 6-inch discharge, run by a 15 h.p. International Gas Engine to water the 20 acres.

Fifteen gallons of distillate work the engine a day of 12 hours at a cost of 97½ cents, being bought in large quantities by combining orders with a neighbor. Forty cents' worth of lubricating oil supplies the engine a day so that the running cost of irrigating Mr. Lachenmyer's 20 acres of oranges and beans is about $1.40 per irrigation.

The well is 100 feet deep with a 12-inch perforated casing all the way down, though the water rises to 20 feet below the surface during the irrigating season. The pump is practically always under water in a 24-foot pit, so it requires no priming.

Will Use Cement Pipes.—To get water across the low part of the orchard and avoid loss in seepage, etc., Mr. Lachenmyer expects to buy cement by the carload, get gravel cheap nearby, and make concrete pipe in co-operation with his brother; and they will use patent gate valves in order to control the waterflow absolutely.

RUSSETY PEARS: A PROBLEM.

(Continued from page 241.)

apples are an inch or so long. I think you had some abnormal rains last spring. I am inclined to suspect Prof. Horne's suggestion is correct, that your moist spring weather may be the real cause of your present trouble with russeting. That means, of course, that you may not have the trouble at all another season."

[The analogy, which both Mr. Swett and Mr .Waite suggest, between russety pears and chapped hands is probably warranted. It is largely a matter of keeping out of the wet in both cases—Editor.]

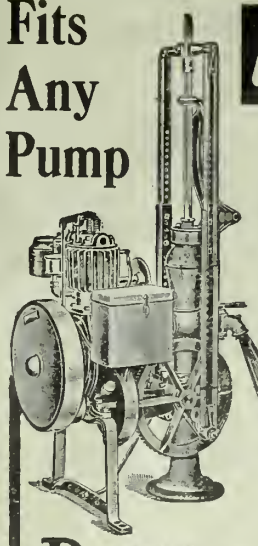
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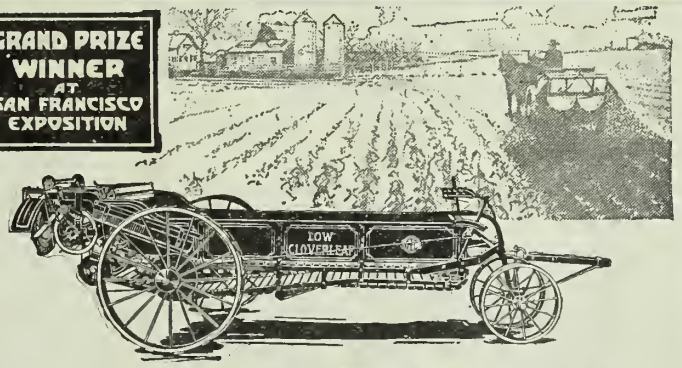
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I H C spreaders are built from careful designs based on rigorous field tests; strength in every part makes them last for years; they can be had with an attachment spreading 8 feet wide or more; they are low for easy loading; narrow for easy handling in yard, stable and field.

If your local dealer can't show you an **I H C** spreader, write us for our booklet "Why You Should Use a Manure Spreader," and when we send it we will tell you where you can see the machine. Don't buy until you have seen an **I H C** spreader.

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Circular containing 100 mechanical movements mailed free.

General Agricultural Review.

CITRUS AND SEMI-TROPICAL.

The orange crop of Tulare county is reported to be 70 per cent of normal; the lemon crop, 80 per cent.

F. Dunning Fowler of Palermo recently purchased 77 acres of the Grinnell Burt property there; 47 acres are in navel oranges.

The highest price paid this season for oranges, $5.70 per box, was secured by the Anaheim Citrus Fruit Growers' Association on the Boston market recently.

According to a report made by its manager, the California Fruit Growers' Exchange during the year ending August 31, shipped 24,217 cars of oranges and 5,565 cars of lemons from the State, bringing in returns amounting to $19,537,850.

OLIVES AND NUTS.

Mrs. Maud Spencer will plant 13 acres north of Princeton to walnuts.

The California Walnut Growers' Association estimates the 1915 shipment at 13,200 tons.

The walnut crop of Orange county is unusually early this year, harvesting just commencing.

It is estimated that there are 13,000 acres of full-bearing olive trees in California this year.

Corning olive growers are going to form a district organization affiliated with the State Olive Association.

According to merchants handling the product, the dehydrated olive is becoming very popular in Sacramento Stockton, and Marysville.

The world's first almond festival, which was held at Esparto on Sept. 4, was pronounced successful in the highest degree.

Fair Oaks olive growers met on Sept. 6 for the purpose of discussing the advisability of joining the Statewide California Ripe Olive Association.

The San Joaquin County Almond Growers' Association has commenced shipping almonds; the crop from that section is reported to be 60 per cent of normal.

Almonds are now being delivered by growers to the warehouse of the Sutter County Almond Growers' Association at Yuba City. The Sutter county crop is not as heavy as usual.

The University of California has increased its correspondence course on olive growing, and is prepared to give all the scientific instruction on the raising of olives at its command.

DECIDUOUS FRUITS.

The harvest of a fair crop of cling peaches has commenced in Tulare county.

The Chico prune crop is said to be several weeks later this year than ordinarily.

It is stated that the Tulare county prune yield will exceed that of any season since the industry started in that county.

It is estimated that with fair prices, the crop of Bartletts will bring Nevada county growers from $75,000 to $100,000 this season.

The young prune orchards in Napa county are being attacked at present by the red-humped caterpillar, according to a report made by H. J. Baade, Farm Adviser.

Dr. B. C. Burger of Placerville took 1100 boxes of pears from 200 trees. The returns for the first shipment of 224 boxes averaged $2.35 a box. The second shipment is expected to sell for more money.

Encouraging returns are being secured by the California Fruit Distributors from their eastern advertising campaign started recently for the purpose of giving wider publicity in the East to the green fruit shipped from the San Joaquin Valley.

Many growers are subscribing to stock in the$1,000,000 California Peach Growers' Company; forty growers are members of a volunteer committee for the purpose of canvassing for stock and are doing good work in the San Joaquin Valley.

On Aug. 31 the plant of the Turlock Fruit Juice Company was completely destroyed by fire. The company some time ago discontinued the manufacture of grape juice and the plant had been leased by the Turlock Merchants' and Growers' Corporation for packing sweet potatoes and cantaloupes.

That the proposed formation of the California Peach Growers' Company is attracting wide attention in the East is shown by the fact that J. P. Bolton, secretary of the central executive committee, received a tentative offer from an eastern jobber for the California fruit, dried and green, to cover a period of ten years.

GRAPES AND SMALL FRUITS.

Lodi shipped the first car of straight Tokays on Aug. 31.

On September 9, Grape Day was celebrated at Escondido.

The Sutter county grape crop is reported to be 60 per cent of normal.

Gathering of the Muscat crop in Tulare county has commenced; the crop is said to be extremely heavy.

The grape picking season has commenced at Yuba City, and hundreds of men are now engaged in the work.

Sutter county raisin grape growers are experimenting this season curing their crop by the oil bleach method.

The California Associated Raisin Company shipped the second trainload of Sun Maid raisins to the East on Sept. 4.

According to Elmore Chase, county inspector, Tokay grapes in the Fairoaks and American river district are sugaring up well.

The Interstate Commerce Commission has granted grape growers the rate of $1.15 per 100 pounds in open lug boxes to eastern points; the new ruling becomes effective Sept. 15.

The California Wine Association will not buy any grapes this year, for the production of dry wines, from the growers of the State, according to an announcement made by the manager.

At the meeting of the American Pomological Society at Berkeley it was announced that a new variety of grape had been discovered. It is called the "Hubbard," is black in color, and is exclusively a table fruit.

Canned grapes bid fair to be one of the most important products in Kings county in the future. The approximately 500 tons put up by the Kings County Packing Company this season found a ready sale in the East.

A fruit inspector in the Reedley district recently found several bunches of Muscats in Malaga shipments which were being tested in a packing house; he was undecided as to whether an attempt was made to evade the law.

That the conditions are better in the San Joaquin Valley for a bumper grape crop than in the past 20 years and that the Muscat variety is beyond the average, is the report made by the State Board of Viticultural Commissioners.

The Parlier winery and the St. George winery at Clovis have been named by the Associated Raisin Company as receiving stations for wine grapes; the company has also agreed to purchase Malaga, as well as Feherzago grapes at $10 a ton.

GRAIN AND FIELD CROPS.

The threshing of beans has commenced in Orange county.

Good bean crops in the delta regions now seem assured.

The harvesting of beans has commenced in the Oakdale section of Stanislaus county.

This season the San Joaquin Valley Sugar Company at Visalia turned out 40,000 sacks of sugar.

The Carson Valley, Nevada, grain crop this season is said to be the greatest in the history of the county.

On Sept. 3, a fire destroyed 1200 bales of hops on the E. Clemens Horst Company ranch near Sacramento.

A bean one yard long was produced this year on an ordinary beanstalk in the yard of Fred Gilbeau of Lodi.

Experiments in rice growing at Princeton, Colusa county, are reported to be successful, a yield of 90

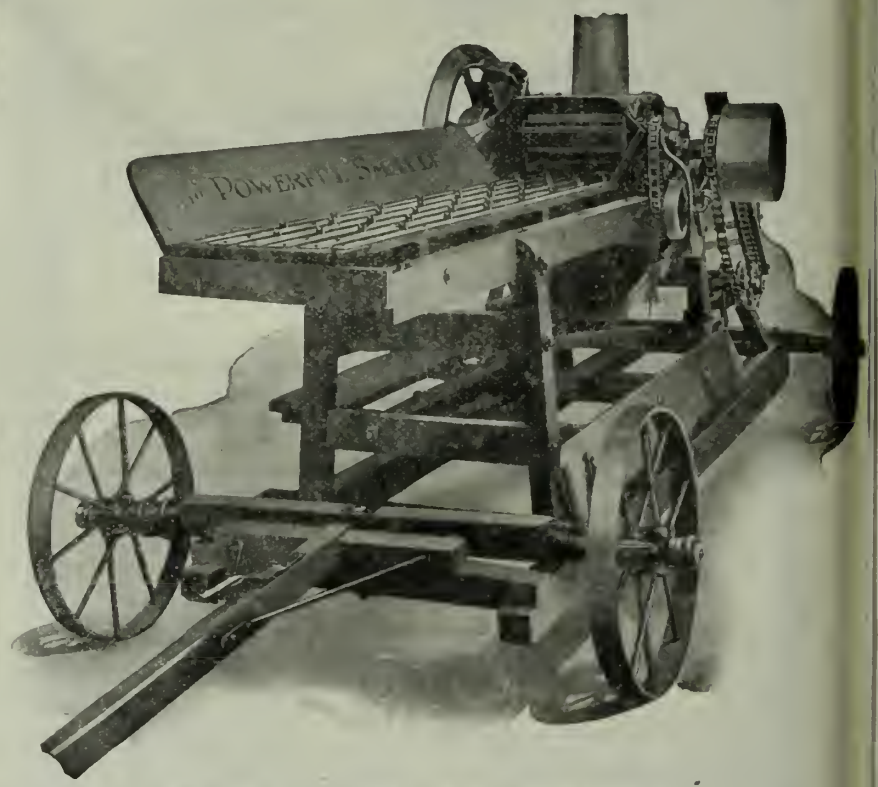
Powerful Smalley

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GRAND PRIZE-WINNER

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Panama-Pacific Exposition



Distinctive Features of the SMALLEY SILO FILLER:

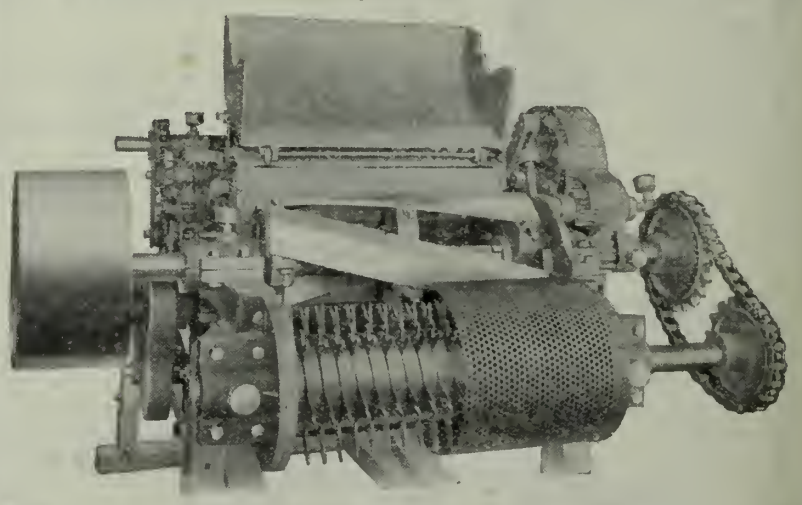
Positive Force Feed.

Grip Hook Chain. Solid Bottom Chain Driven Blower.

Reverse Lever. Bevel Knife. Immense Capacity.

Safety Device automatically stops knives upon hitting any foreign substance they cannot cut.

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Sectional view with screen cut away.

This attachment can be furnished as an extra for all sizes of SMALLEY CUTTERS.

Capacity ¼ ton to 3 tons per hour.

Can be seen at Palace of Agriculture, Panama-Pacific International Exposition, or at our warehouse.

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Pacific Implement Company

SAN FRANCISCO, CALIFORNIA

to 100 sacks per acre being expected.

According to the V. A. Peterson Alfalfa Seed Company, growers of alfalfa seed in the Arbuckle section will realize $30,000 for their crop.

The San Joaquin beet crop is reported to be in excellent condition, and shipments to the Spreckels refinery have already commenced.

The German Government has offered to purchase 1,000,000 bales of cotton in the United States at 15 cents a pound, payable on delivery.

It is expected that the rice acreage of Butte county will be increased by fully 10,000 acres as the result of the opening of the Western Canal.

Sutter county farmers have a large grain yield; 150,000 sacks have been piled outside the warehouse at Tarke station by farmers in District 70 alone.

A company of San Francisco men have purchased 4500 acres of land in Glenn county from the Sacramento Valley Irrigation Company, which will be planted to rice.

Rice on 100 acres of the Shipee Ranch of Butte county will be ready for harvesting within a couple of weeks; the company intends to plant 600 arces next year.

Alfalfa growers of Dixon have taken steps toward the organization of an alfalfa growers' association. At a recent meeting, H. McFadyen was elected president; R. Moss, secretary; W. R. Madden, treasurer.

Potato conferences under the auspices of the State Commission of Horticulture will be held at Bakersfield, Sept. 14; El Monte, Sept. 16; Nuevo, near Perris, Riverside county, Sept. 17; Salinas, Sept. 20; Stockton, Sept. 23; Sebastopol, Sept. 25.

Butte county rice growers are very enthusiastic over the crop prospects at the present time. The company which recently took over the California Rice Mill at Biggs is now making plans to assist the growers in harvesting and caring for their crops.

The Yolo county Farm Adviser reports that this year many hundred acres of field beans have been planted in the county on land which never before grew beans, and a great deal of difficulty is being experienced because of poor selection of varieties and lack of familiarity with cultural operations. The Blackeye and Tepary varieties are giving good results under the most trying atmospheric conditions.

A blackeye bean harvester, cutting and winrowing two rows at a time, with the two horses pushing the machine and walking on clean ground, was recently invented by H. B. Brubaker of Modesto and is being used to cut his own and his neighbors' large acreage. He will not patent it because of his principles against "making use of the law" to defend a patent against probable infractions. The machine does fine work easily.

A very serious condition prevails in the river section of Yolo county among both bean and alfalfa growers, according to the Farm Adviser. The high water table for the past two years has drowned off the tap root of the sub-irrigated alfalfa, and as the water table has fallen away rapidly, the surface roots are left without moisture and the plants have ceased to grow. In some cases, sheep are being turned into the fields, which in normal years would yield two more cuttings of hay.

The Turlock Merchants' and Growers' Assn., whose organization was completed in June, controls about 45 per cent of the melon and sweet potato acreage, and instead of the 75 to 100 cars they expected to handle, had already on Sept. 4 shipped 396 cars of cantaloupes and 234 cars of watermelons. Shipments will cease about Sept. 15; $18,000 was advanced on the pool previous to Aug. 1 and $13,000 remained to be paid on that. The Aug. 1-15 pool averaged better prices than the others. The first 200 cars for which remittances were received brought $70,000 to the growers f. o. b. Turlock. The Association expects to market dried fruit and other products for its members next season.

MISCELLANEOUS.

A movement has been started in Santa Cruz county to secure a farm adviser.

On Sept. 4, the attendance at the Panama-Pacific Exposition passed the 12,000,000 mark.

A movement has been started by progressive farmers of Butte county to secure a Farm Adviser.

An effort is being made to secure a farm adviser for the Alta Irrigation District of Tulare county.

An effort is being made to establish an irrigation project at Grass Valley, with the aid of the U. S. government.

Experiments in the culture of silk worms are being carried on in Yuba county, according to a recent commerce report.

The Fresno weather bureau has commenced sending out daily reports on weather conditions to fifteen places in the valley.

Raymond Beckman, a Lodi boy, has been elected president of the National All-Star League of Agricultural Prize-Winners.

Farm Adviser H. A. Weinland of San Diego county reports that a systematic squirrel campaign will be conducted in his territory.

The 35 winners of the California agricultural clubs will leave San Francisco on Oct. 17 for their 9000-mile tour of the United States.

The entire California fruit crop will be somewhat below normal, according to the last estimate made by the State Commission of Horticulture.

Members of the Chowchilla Farm Bureau recently met to oppose the movement on foot in Madera county to dispense with a County Farm Adviser.

E. R. Arner of San Francisco recently purchased 800 acres in Butte county, with the intention of improving the property and subdividing it into small tracts.

Organization of a Sutter County Farmers' Protective League was perfected recently, the object of which will be to oppose adverse legislation and efforts to force fruit prices down.

After an investigation by Dr. E. Metcalf, pathologist with the U. S. Forestry Bureau at Washington, D. C., the U. S. Plant Introduction Garden at Chico was found free from disease of any sort.

The Farm Bureau of Humboldt county is endeavoring to secure an efficiency expert for that county, whose duty it will be to tell the farmer wherein he is losing money, either in producing or marketing.

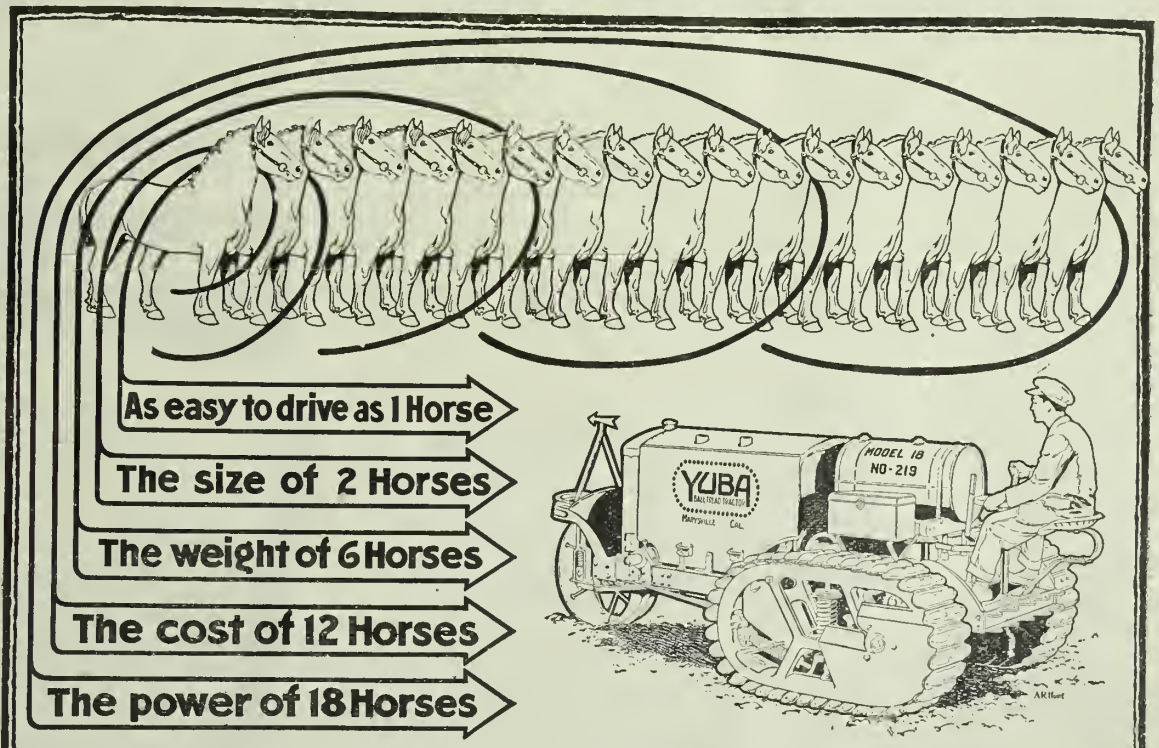
The second annual meeting of the Yolo county farm bureau was held recently and the following officers elected: J. L. Harlan, president; M. H. Stitt, vice-president; H. Van Tassel, secretary; and the Bank of Esparto, treasurer.



MICA AXLE GREASE

gives *better* lubrication. Spindles *can't* get dry or hot—grease *can't* gum or cake. The grease itself is the best that skill, equipment and money can produce, and then—there's the ground mica. Keeps the spindles friction free. No hot boxes. Dealers everywhere.

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is comparable to horses in weight, size, cost and power. If you consider the distinctive mechanical features, the high-grade material and the skilled workmanship that have been built into the YUBA, it is without comparison.

The combination of the comparable and the incomparable have gained for the Yuba Ball Tread Tractor a reputation second to none.

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Kindly send me a copy of your booklet "The Yuba Ball Tread Tractor."

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CHECK MAIN CROP RAISED
Fruit ..... Rice .....
Grapes ..... Alfalfa .....
Grain .....Hay .....Hops .....

California's Opportunity for Dairymen.

[Written for Pacific Rural Press.]

WHAT AUSTRALIA THINKS OF OUR BUTTER.

A prominent butter manufacturer and distributor states that with the opening of outside butter markets which is sure to come now that we have reached the limit of home supply, the style of our package will be of more importance than it has in times past.

He compares our present box, in which the cubes are placed, to an office desk having a fine interior but a cheap rough exterior, and asks whether one would be apt to purchase such a desk when one with a fine exterior was available.

In connection with this subject of butter packages, it is interesting to note the comments made on the past few months' shipments to Australia by dealers and inspectors in that market.

The following from the Melbourne Age is contained in the U. S. Govt. Commerce Reports of a recent date:

"For the first time in the history of the trade, consignments of butter from America have been placed on the local market. Mr. R. Crowe, exports superintendent, stated yesterday that several parcels of Californian butter had been examined by experts of the produce division of the agricultural department, and the quality generally had been found uniformly good. The flavor was lacking in freshness, just as might be expected, considering the age of the butter. The type of package and weights chiefly arrested attention. The cube boxes were made of spruce pine, planed on the inside, and coated with paraffine wax to prevent the wood from tainting the butter. The outside was very rough, neither the wood nor the edges being planed, and this rough exterior lent to the picking up and holding of dust and handling marks. All the brands were stenciled and not impressed, as was the case with Australian butter boxes.

It was strange, continued Mr. Crowe, that in America such taste was displayed in the type, get-up, and branding of kerosene cases, and also such a laxity with butter. The weights were not marked on the packages, and the contents varied from 65 to 72 pounds; each packet had to be tared and recorded separately. In this respect the early days of the butter industry in Victoria were recalled, when kegs and boxes of different sizes and shapes were the rule. It was then necessary to weigh and record the gross, tare, and net weights of each package. That was the practice of 25 years ago. The Agricultural Department set to work, and soon had the ½-cwt. package in universal use. The whole of the butter packed in bulk for export and local sale through Australia was put in boxes containing 56 pounds net, and special precautions had been taken by regulations under the commerce act to insure the continuance of this standard package. By the arrival of butter from San Francisco one was reminded of the enormous boon the standard package was to all concerned. With the million boxes of butter made yearly, both labor and clerical work, sometimes involving mistakes and loss, were avoided. It came as a surprise, concluded Mr. Crowe, that the Americans, who adopted decimal coinage, should have overlooked the advantage of standard butter packages."

THE SILO IN GRASS COUNTRIES.

[Written for Pacific Rural Press.]

The need for silos in an all-the-year pasture country and where corn will grow, but does not ear out, may seem at first far-fetched; yet dairymen in Humboldt county are putting the silo into service the same as in all other parts of the State in ever-increasing numbers.

It is an established belief among many of the stockmen of that county that the more you farm, the less money you make; and in line with this thought the silo fits in perfectly. In the past it has been customary for every dairyman there to plant a small portion of his ranch to root crops with which to carry his stock over the fall and winter months when heavy rains make it necessary to stable the stock.

These root crops, while producing wonderful tonnages cost money to raise and harvest, $40 to $50 per acre being the rule, and it is to overcome this expense as well as to furnish green feed in midsummer when good pasture is scarce that the silo is warranted.

Corn and sorghum crops being eliminated as silo crops, necessitates the use of the clovers and rye grass which are most commonly grown and this enlarges the usefulness of the silo, as the rain-damaged hay crops of spring may in this way be saved and turned into valuable feed when such feed is most badly needed.

As is common with the silo in all sections, experience brings to light new silage crops and new farming methods; and so it is there, bald barley or oats planted with vetch seeming to be the coming silo crop on account of its adaptability to a rotation system with the summer and fall grown root crops.

When such feed is siloed or contemplated as a silo crop, it is planted in fall on the land which has been previously planted the same year to root crops. As this beet and carrot land would otherwise usually lie idle till after the heavy winter and spring rains, it may with the vetch and grain hay crop be utilized the entire year growing the silo crop in the winter and early spring before land preparation is necessary for the root crops.

Wheat and vetch are also reported as good silage crops, being seeded in December and cut in April or May when the wheat is in the dough. One silo owner with several years' experience highly recommends this as a silo crop. Incidentally, it might be mentioned that he has even siloed Canadian thistles and found the cows so fond of them that they licked the feed troughs clean when fed the silage.

One dairyman in the whole milk business thinks so much of silage that he silos all of his rye and clover which would ordinarily be cut for hay and buys alfalfa hay in its place to be fed with the clover silage. This does away with root crops entirely in this instance and is believed to be more efficient and more economical.

What one dairyman of Humboldt county said may be applied to all parts of the State at the same time: "The thing that every stockman is interested in and watchfully waiting is the silo. It's coming fast, and the dairyman of the future without a silo will be the exception."

STARTING WITH PUREBRED HOGS.

[Written for Pacific Rural Press.]

"Many people wanting to start with purebred hogs come to my place to buy a couple of sows and a boar. I practically always advise them to take two or three gilts already bred to one of my boars, then save all the sows pigs; and when ready to breed the sows again, come and buy a good, young boar which has no relation to them. He can serve the sows and their pigs, while if the boar were bought with the original sows, he would have to be sold or exchanged right away, for there is not much profit in keeping a boar for two sows and another one for the rest," says E. C. Rand of Petaluma.

One who starts purebreds in a small way must work up his reputation. This is done by local advertising at first, for it does not pay to attract inquiries which must be turned down for lack of stock. Such an inquirer does not often come back.

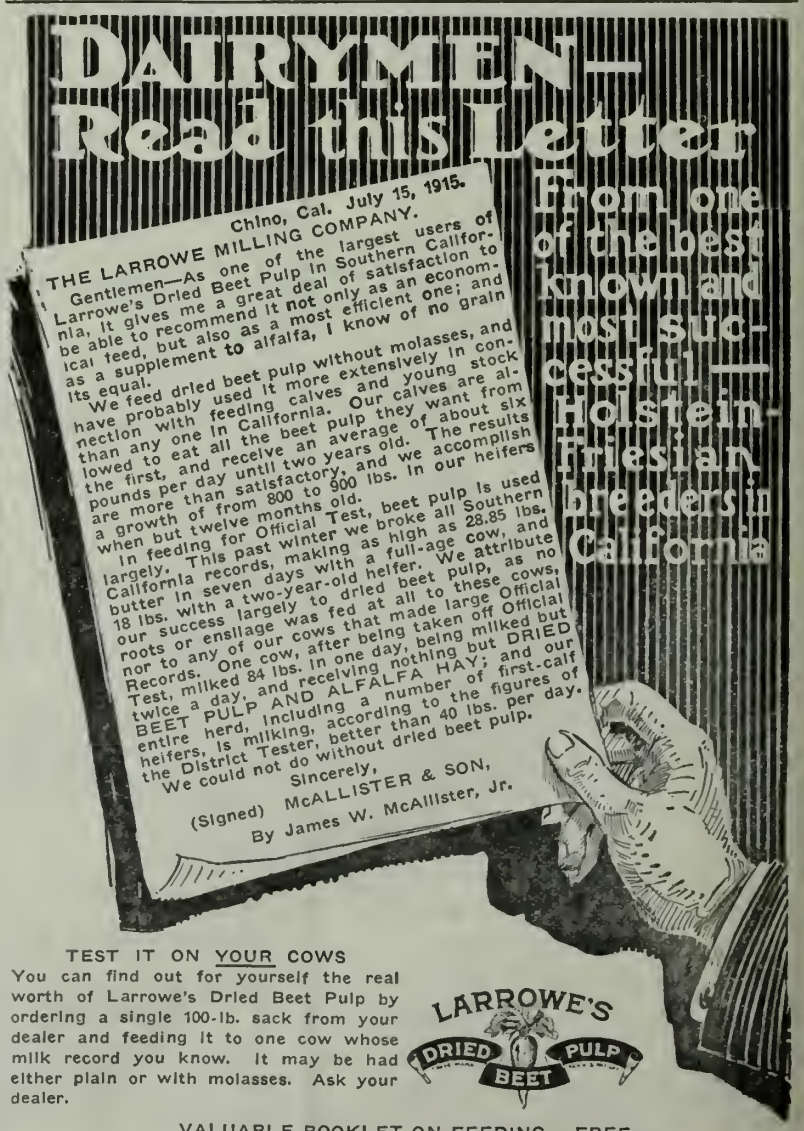
Later on, when the herd is increased to justify it, advertising in the State-wide farm papers, showing at the fairs, and taking part in swine breeders' association are necessary parts of the breeders' policy. It is poor business to sell any animal on which the buyer will have a kick coming, for advertising pays best when it attracts customers who repeat their orders.

CHEAPER FREIGHT ON BETTER ANIMALS.

Valuation of cattle, horses and other animals in live stock shipping contracts made by forty-five railroads west of Chicago have been declared to be unjust and unreasonable and ordered canceled by the Interstate Commerce Commission. The Commission declared the scheduled valuations were not representative of the average actual values of the animals shipped.

On a horse, the actual value of which does not exceed $150, the new rates must be fixed at not more than the freight charge now based upon the present scheduled valuation of $100. New tariffs on other animals were prescribed in accordance. For each 50 per cent or fraction of actual value added, not more than 2 per cent additional may be charged.

A Holstein cow, Brinka De Kol, owned by J. A. Pelanda of Salida, produced in 10 months 807.87 lbs. butter.



Importance of an Exchange for Feeders.

To the Editor: Kindly allow me to continue the subject of organization to aid stock feeders in this State by quoting from your comments upon my letter, published in recent issue, as follows:

"Just what kind of distributing and marketing system would best meet this growing demand is a much mooted question, but it is certain that the one now in vogue will not permit of much development."

It would then seem that there is need for a freshly organized association to meet developing conditions in a progressive manner.

The eastern union stock yard plan could be simplified and improved upon, for California use, in handling transactions in feeders and eliminating the need of commission men and stock brokers.

It would be desirable to operate a San Francisco Union Stock Yard on a cost basis as a market for finished stock solely, without handling feeders in the yards.

It would not seem necessary nor economical for a farmer in Sacramento county to be obliged to buy Plumas county feeders in San Francisco yards, when a well-informed association office could accomplish the transaction, quickly, bringing the parties together without the expense of unnecessary loadings, rail journeys and holdovers as with the Eastern system.

As it is now, feeders generally go out on a stock hunt, picking up here and there, driving to a collecting point for shipment or buying through a local broker. This involves a loss of time, expenses, shrinkage or fees which reduces profits for the large feeders and practically eliminates the small fellows from the game.

The aggregate of small fellows can handle an immense number of cattle, and their needs as well as others must receive attention if California's vast available resources in the feed lots are to be utilized.

Until the small producer wakes up to the necessity of organization he will continue to remain nailed to the cross as an easy target for those who separate him from his feed and ship it long distances to others who realize the value of it even at four times its original cost.

The producer not only gets his nose pulled but his face slapped by a joke, for allowing the pulling, and about all he has left is his independence in saying which candidate shall be permitted to do the pulling, knowing that all have agreed to use the same force.

When an alfalfa mill can contract one thousand acres of alfalfa for the season at four dollars per ton, which sells as meal in the eastern market at twenty-five dollars per ton to furnish a profit there, is it necessary to continue blowing an impotent reveille to the feeders of California?

Is the idea going to die in the wool, or are you fellows with feed for the stock going to mill it up in your own pastures and at your own stacks? It is up to you.

There is a good deal of intelligent assistance to be had in undertaking the formation of an association in this age.

The Office of Markets and Rural Organizations of the U. S. Dept. of Agr. has done remarkable work in facilitating the formation of such enterprises. Its large fund of information and accumulated data is at your disposal for intelligent use as well as their personal services.

Assistance may also be had from the county farm advisers of this state in getting into close local touch with all parts of the commonwealth.

Execution to produce material and concrete results is the sort of activity that is required at this time.

Let not the old saying that "what is everybody's business is nobody's business" operate to the detriment of all concerned in this matter. If it concerns you, make it your business! Wm. Curtis Clark.

Dixon.

HOLSTEIN STEERS VS. CHEAP HAY.

To the Editor: Would it be profitable to fatten and raise grade Holstein calves into market steers, say three-year-olds, on alfalfa hay at $5.50 a ton, together with some corn stock rougbage, the animals not being required to range for their feed? In other words, will it pay me, with more hay than I can feed my dairy cows, to feed my own calves or to sell the calves and the excess bay at $5.50 per ton, not considering the manural value of the stock? What is it likely that the figures would be? If I fed straw with alfalfa would it make a good ration?—R. D. K., Richfield.

[From our observation it would not be profitable for you to attempt to raise Holstein steers under your conditions. We should sell the calves for veal when they were three or four weeks old and utilize the surplus feed by adding more hogs and dairy cows. If you want to feed butcher cattle, get well bred beef calves, short yearlings if possible. Feed them well and turn them off next spring. In this way you may make better than $5.50 a ton for your hay, providing the market is right in the spring.—Editors.]

Registered Jersey Bull

A perfect individual.
Dam "Register of Merit" cow.
Sire, 1st prize winner and Reserve Champion.
Daughters are Big Producers.
Must dispose of this finely bred animal, as I do not wish to use him on his daughters.
Sure Breeder and Gentle.
P. H. SMITH & SON,
Sacramento, Cal.

Blue Ribbon Berkshires

Registered
Herd took 3 firsts, 5 seconds, 3 thirds.
Champion Sow "American Berkshire Silver" at 1914 State Fair.
Choice-bred Gilts, Boar Pigs and Sow Pigs from prize-winning sows. They are going fast. Order now.
F. W. WHITE, Elk Grove, Cal.

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Sales conducted in all parts of the State. Twenty-six years' experience. Write for terms. LINDEN STOCK FARM — Horses, Mules, Shropshire Sheep, Berkshire Hogs for sale. 704 Market St., San Francisco.

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Expert Live Stock Auctioneers
Sales conducted in all parts of California and adjoining States. Write for dates and terms.
Twenty-five years' experience.
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FOR SALE
Four Duroc-Jersey Boars
Like all our herd, these are registered from "Col. Keen" and "Advancer 41h" stock. Farrowed April 10. 1915. In the best of condition. Write for prices and particulars.
RIVER BEND FARM, St. Helena, Cal.

HORSE OWNERS! USE
GOMBAULT'S
CAUSTIC BALSAM.

A safe, speedy and positive cure. The safest, Best BLISTER ever used. Removes all bunches from Horses. Impossible to produce scar or blemish. Send for descriptive circulars.
THE LAWRENCE-WILLIAMS CO., Cleveland, O

LET'S GO!
to the
California Holstein Breeders' Second Consignment Sale
of
175 - High-Class Animals - 175
Tuberculin tested.
at
Hanford, Cal., Oct. 14-15, 1915
And Get Started Right!

A great selection to choose from:

Cows with records as high as 29.90 lbs. butter in 7 days made as a 4-year-old.
Daughters of cows with records as high as 30 lbs., 29.90 lbs., 24.45 lbs.; as a 3-year-old, 24.45 lbs.; as 4-year-old, 22.50 lbs.
Daughters and granddaughters of great sires, including 15 daughters of Colantha Sir Pontiac Aaggie—best bred son of the great sire Colantha Johanna Lad, granddaughters of Pontiac Hengeveld Parthenia and others of equal note.
Bred to many of the greatest sires in the West. Their calves will be worth more than the dams bring.
And about 20 high class young males, many of which are ready for service.

For catalog and other information write:
JAMES W. McALISTER, JR., Chino, Sales Manager;
COL. B. A. RHOADES, Los Angeles, Auctioneer.

GRANDSONS OF TILLY ALCARTRA
At Prices within Reach of Every Breeder and Dairyman.

A Grandson of Tilly Alcartra.
We have several splendid grandsons of this now famous cow which we can deliver to you at prices which will suit the pocketbooks of every dairyman wishing to improve the quality of his herd, whether it be a grade or pure-bred herd. These bulls are sired by our herd bull, Prince Alcartra Korndyke and out of A. R. O. cows, and are the only living grandsons of a cow having a record of over 30,000 pounds of milk in a year. Such an opportunity for increasing production has never been offered DAIRYMEN AND BREEDERS in California, price and quality considered. Buy one of these bulls and solve your low production problem. Write
J. S. Gibson Co., Box 97 Williams, Cal.
"THE NAME GIBSON INSURES QUALITY."

A. R. O. Cows and Heifers
Bred to PRINCE JULIANA DE KOL WALKER, will be in our offering at the California Holstein Breeders' Sale at Hanford, October 14-15. PRINCE JULIANA DE KOL WALKER is sired by PRINCE GELSCHE WALKER, whose dam is GELSCHE WALKER, 30.54 pounds butter in 7 days, and whose seven nearest dams average nearly 30 pounds butter in 7 days. His dam is JULIANA DE KOL, former world's record 2-year-old, whose sire has 8 daughters averaging 867.82 pounds butter in one year. This is the kind of Blood for Foundation Stock.
HEWITT & HEWITT, Hardwick, Kings County, Calif.

When Grain is High **Feed DIGESTER TANKAGE**
Whether intended for show or market, the hog attains perfect condition and more quickly and economically if his ration includes some DIGESTER TANKAGE. The growing pig needs DIGESTER TANKAGE as a bone and muscle builder. Write for free pamphlet on hog-feeding.
WESTERN MEAT COMPANY,
Animal Food Dept., 704 Townsend St., San Francisco, Cal.

With the Live Stock Men.

DAIRYING.

A. Allen of Escalon will fill his recently-erected 50-ton silo with Indian and feterita corn.

A. A. Merkley of Sacramento sold a Holstein bull to F. W. Kissel of that place for $300.

A. B. Humphrey of Mayhews recently sold a Guernsey bull to C. E. Humbert of Cloverdale.

S. Ever of Clarksville, breeder of Brown Swiss cattle, has his dairy herd up near Truckee on his summer ranch.

The new 120-ton silo erected on the Goodman Ranch east of Manteca will be filled with corn in the near future.

Jas. McGillvery of Sacramento county reports sales of Holstein bulls as being good. "Cannot supply the demand," he says.

Joe Carrico of Oriand has a dozen heifer granddaughters of Tilly Alcratra, which are likely to make a big showing one of these days.

O. J. Ames of Oakdale recently shipped a six months old Jersey bull calf to Chas. McKay, Jr., of Bishop, Inyo county; also one to Hans J. Nilsen of Oleander.

Two burebred sales of dairy cattle will be held at Hanford next week—a Holstein sale on the 15th and a Jersey sale on the 16th. All purebred men should attend.

Dr. Farish of Sacramento has a herd of 125 milking cows on his ranch near Woodland. He is testing his cows and weeds out the poor ones, replacing them with others.

R. F. Guerin of Tulare recently had an advanced registry test made of several members of his herd; two cows produced 16 pounds butter fat in a week, and two others 14 pounds.

Twenty-five high grade Holstein cows were recently purchased from dairymen in the Arcata section of Humboidt county by the manager of the Gotshal Cattle Company of Ripon.

The F. J. Scheef Dairy, west of Woodbridge, was scored 100 per cent by the Alameda Dairy Inspector. The Empire milking machine has been used for four months on this ranch.

The daughters of Silver of Cosumne, great herd sire belonging to P. H. Smith & Sons of Sacramento county, are proving to be great producers, and a credit to the Jersey breed.

Theodora, a three-year-old Holstein in the E. F. Young herd of Modesto, produced in 10 months 332.4 pounds fat. In her best month she made 62.6 pounds fat and 1565 pounds milk. Pauline Echo, a stable mate, made 357.6 pounds of fat in 11 months.

Ernest Hogiund of Denair is one of several in that district who are putting up silos. He has three acres of yellow dent corn planted the last of June on sub-irrigated land, from which he expects to fill a 50-ton silo. A little feterita will be mixed in, as he thinks that will improve the silage.

The Keyes creamery of Stanislaus county began August 16 to pay one cent more for cream testing over 35 per cent butter fat, though they always have churned their poor cream separately into two grades of butter. No customers have been lost and the percentage of extras made from the same amount of cream receipts has increased from about 5-6 to 6-7 or 7-8.

That this is to be a great silo building year is evidenced by sales made during the past week by the De Laval Dairy Supply Company of San Francisco. During that time they shipped a carload to Inyo county, two carloads to Imperial Valley, two silos to the Fairview Stock Farm at Gonzales, two to the Henderson Company, Galt, two to A. Meister, Sacramento, one to J. M. Harlan, Woodland, and two to Herbert E. Coyle, Woodland. They state that they are finding dairymen as a whole very enthusiastic over silos and believe it is only a matter of a short time until the silo will be considered as necessary as any other part of the dairy equipment.

The Holstein Association has announced the winners in the butter fat contest for the year ending May 1, 1915: Miss M. Holdridge of Modesto took 15th prize money with Tuia Peitertje Netherlands in 7 and 30 day tests. Twelve hundred cows in the United States contested. This great cow produced 33.82 pounds butter in 7 days and 129.39 pounds in 30 days. The average fat test was 4.77. Fedessa Bloom, another cow from the Cream Cup herd, took 17th place, making 33.54 pounds butter in 7 days; fat test, 4.69. In the continuous milking contest, 6 cows placed. Navena Cream Cup at the 8th month made 15 pounds butter in 7 days, 780 pounds in the year. Winifred Hotaling 2nd, a five-year-old, made 14.46 pounds butter in 7 days. This year at the 8 months period she made 17.03 pounds.

HORSES AND SWINE.

Geo. Murphy of Perkins will have his Berkshires at the Exposition.

Dr. Gouid of Ripon is securing a start in Berkshires.

W. J. Hackett of Ceres is getting some surplus registered Duroc stock to sell.

F. W. White, Elk Grove, sold 5 sows and a boar to Smith Bros., of Fiorin.

Berkshires are proving a good money crop for Wm. Mikesell of Manteca.

John H. Stewart of Elk Grove sold 10 registered Berkshires in the last two weeks.

A. Carison of Camino, breeder of O I C swine, is planning to enlarge his herd next year.

K. J. Miller of Lathrop reports having sold 8 registered Poland-China boars and sows lately.

To date 475,000 horses and mules have been shipped out of the United States for the European belligerents.

Twenty head of registered Duroc-Jersey gilts were purchased from M. C. Allen of El Cajon by W. E. Vondiner of Ripon.

C. B. Cunningham of Mills, breeder of O. I. C. swine, has shipped seven head of registered hogs within the last 30 days.

Purebred Hampshire or "Dutch belted hogs" create quite an interest in those who pass the farms of L. Barnhart and his father near Turlock.

Two boars and three sows of one litter bred by J. K. Fraser of Denair are going to put up a strong bid at the Panama-Pacific Exposition for the ribbons, etc.

Chas. Goodman of Williams is now breeding from a registered Berkshire boar, Kaiser, which weighed 66 pounds at three months and 173 pounds at six months.

The prize winning Berkshire boar recently imported from the East lost his life in a fire that destroyed the calf barn on the Humphrey's ranch at Mayhews. A very valuable sow was also burned.

Rather thin hogs about six months old and weighing 100 pounds make the best feeders, according to H. F. Beidleman of Ceres, who buys hogs and fattens them for the Western Meat Company.

A contract for the sale of 5000 horses for cavalry purposes, valued at $700,000, has been made by Dr. H. Hodron of Chico and N. D. Simpson of Woodland with a representative of the French government.

M. Rucker of Fair Oaks reports the sale of a Duroc-Jersey sow to John Donaldson of Pasadena, and three bred gilts to Harry T. Hauston of Woodland. The Rucker show herd will be shown at the Exposition.

A beginner with purebred Berkshires is Harry Basso of Modesto, who recently bought a registered gilt. As her offspring increase, he will diminish the number of mixed hogs. He is feeding fruit and skim milk to nine shoats.

Ruby & Bowers at Davis will show fifty horses at the Panama-Pacific Exposition, which they claim will fill all classes in Percherons, Belgians, Clydes, and Shires. Fifteen of the animals will come from Davis and rest from Oregon.

The University Farm is fitting a

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"The gas engine without batteries"

Stops ignition trouble

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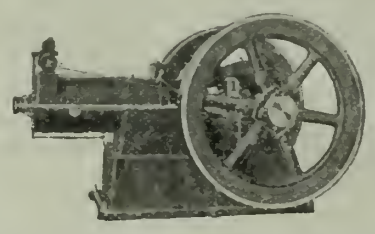
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GOLD MEDALS

San Francisco 1915

The Exposition gave *highest* honors to these Standard products made from California crudes, in competition with other gasolines and automobile oils.

Standard Oil Company

(California)

San Francisco

ge number of hogs of five breeds m which they will select the best ividuals for each class to be wn at the Panama-Pacific Expo- on. Some of the sows now near- ready weigh well over 600 pounds. An extensive hog plant is being cted on W. E. Vondiner's ranch r Ripon. A string of 50 houses i pens have already been erected i 100 more will be put up in the r future. The foundation of the d and storage barn has been rted.

Geo. F. Woods of Ceres has both rebred and mixed Durocs. He will rk into purebreds only, in a year two. He is feeding a bunch of barrows 28 gallons buttermilk i 300 pounds cull sweet potatoes day. That is just as good feed corn, in his judgment.

Four registered Duroc sows which D. Collins of Denair bought from K. Fraser for his start a year , had 51 pigs, of which 11 were led or given away. The other 40 now making the farm look like up-to-date breeding outfit. About ee-quarters of them are sows.

A. B. Humphrey of Mayhews re- rts the following sales: 4 sows to Butte City Ranch, Glenn county; boar to Henry Rehm, Milford, ah; 1 young sow to Hunt Bros., nden, Cal.; 1 boar to L. R. Brand- tter, Stockton; 4 sows to Calla ove Farm, Manteca; 2 sows to Mrs. lian North, Sacramento; and 1 ar to H. H. St. Clair, Livermore.

Elmer Lamb of Ceres expects to ke 11 registered Durocs to the esno Fair and take the winners to Panama-Pacific Exposition, with ers which may improve between w and then. The herd will put up very strong fight for the honors. includes American Beauty, under o years, 2 sows under 18 months, boars under a year, 3 boars and sows under 6 months.

Lamb's American Beauty, grand ampion sow of the 1914 State ir, is reported by one of our rep- sentatives to be looking fine. Two gs of her last litter promise to do mething in the show ring. Mr. mb is mating some of his sows to bins Robusta, son of King of Ore- n, grand champion of Oregon, 14, and is using California Keen h, one of the State Uniersity show ospects, on others.

CATTLE AND SHEEP.

H. L. Murphy of Perkins has some ry classy Shorthorn cattle which e proving good money makers.

The wool clip in Oregon this sea- n amounted to fifteen and a half illion pounds.

J. L. Bruml of Lockeford keeps a nch of sheep to clean up the weeds d grass along the fences.

The cattle tick cost the United ates approximately $90,000,000 ring the past year, according to a vernment estimate.

J. W. Marshall of Dixon recently pplied the University Farm with a rebred Shropshire buck to be used rough the breeding season.

Stockmen in Siskiyou county have en troubled with the ravages of ountain lions; one man recently st three calves when lions raided s corrals.

Green Wood Mary, former great ow cow of the Hillcrest Stock Farm Davis, now owned by Geo. Murphy Perkins, is still in good trim and regular breeder.

Five hundred head of cattle were cently received by the Porterville lfalfa Company for feeding pur- ses; they will be put on the com- ny's big ranch at Poplar.

A ewe cheese factory will soon be operation in Esparto. Three pro- oters of the scheme have leased a rge ranch and have contracted to ilk 1250 ewes this season.

One of the largest sheep ship- ents in years recently reached oodland from Nevada. It con- sted of 4300 head and was con- gned to S. Cokely, L. Murphy, and . D. Bailey.

The first annual meeting of the entral Stockmen's Association was eld in San Luis Obispo last week, nd Howard V. Jack was elected resident and Easton Mills treasurer. he main object of the association is o protect its members from cattle- tealing.

A splendid exhibit of Angus and Hereford steers and cross breds of the Shorthorn and Hereford will be shown by the University Farm at the Panama-Pacific Exposition. There are a dozen head, all raised on the Farm except an Iowa-bred Angus bull.

MISCELLANEOUS.

F. W. Kissel, Sacramento, is entering the Duroc-Jersey and Holstein game.

W. H. Heileman, Farm Adviser of Glenn county, reports that a live-stock census is being taken in that county.

Eldorado Ranch near Folsom is selling at public auction on Sept. 14 the entire stock and equipment of the ranch.

A hay barn 120 feet long by 40 feet wide, with 14 foot sheds on each side, has been erected on the Richards Ranch near Oakdale.

Directors of the Ferndale Fair have made two rulings which will tend to encourage breeders to show their stock. One is that all stock will be cared for by the association, and the other is the offering of premiums for stock under one year of age.

Favorable freight rates have been granted livestock exhibitors at the Panama-Pacific Exposition by the various transportation companies. In broad terms it can be said that shipments to San Francisco from points throughout the greater part of the United States will be returned free to point of origin, provided charges have been prepaid in full one way, and that shipments not returned will have a refund of 25 per cent of one way charges, except terminal ones.

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DAIRY CATTLE.

DISPERSION SALE OF HOLSTEIN HERD—52 Head of Registered Holstein-Friesians—26 cows of excellent blood lines of bigh record cows. 4 beifers, 2 year olds, bred. 10 heifers, four to fourteen montbs old. 6 service bulls of best families. 6 bull calves, one to ten montbs old. Tha sira of this berd is **Artis Pontiac Tekstra**, a grandson of **King of the Pontiacs**, also, a grandson of **Pontiac Artis**, one of the best of 116 A. R. O. daughters of Hengerveld De Kol. Prices on application.

INCREASE QUANTITY AND IMPROVE QUALITY of your milk by using a **Guernsey Sire.** Wa can furnisb choice imported or home-bred bulls from big record cows at attractive prices. **Imp. Itchen May King 25174,** the best living May Rose bull, beads tbe berd. See bim and bis calves at San Francisco Exposition. Come and see **our Guerneeys,** or send for price list. **Edgemoor Farm,** Santee, California. Walter H. Dupee, Proprietor.

350 Head of Grada Holsteins—250 cows, $75 to $125. 60 beifers, two years old, $65 and up. 40 beifers, five montbs to one year. The cows and heifers are bred to Holstein-Friesian bulls of tbe best families. Miller & Lux, Inc., Dos Palos, Cal.

FOR SALE—Four registered Guernseys. Two imported cows 6 years old. One bull calf 5 montbs old from one of these cows. One bull two years old—champion Minnesota State Fair at six montbs old. E. M. Smitb, Delano, Cal., R. D.

REGISTERED HOLSTEIN COWS and beifers bred to Colantha Sir Pontiac Aaggie for sale. Also bull calf by bim from a 24-lb. cow. K W. Abbott, Milpitas, Cal.

HOLSTEIN BULLS—Pure-bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

FOR SALE—About 60 bead of fine dairy beifers from 6 montb to 2½ years old. Grada Jersey and Holstein, J. S. Smitb, 226 Alameda Ava., San Jose, Cal.

REGISTERED HOLSTEINS—Young bulls sired by King of Riverside and Lakeside Model Prince from A. R. O. fame. J. R. Harlan Co., Woodland.

FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

AYRSHIRES—For sale, fine young bulls from Imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

THREE REGISTERED JERSEY BULLS—Dams big producers. Sires dam 691 lbs. butter cow. Prices right. **C. D. Haywerth, Modesto, Cal.**

REG. HOLSTEINS—We offer choice grandsons of King Segis, also grandsons of tha world's record cow. Creamelle Vale; blood that increases the value fo your herd. Write or call and see our herd. F. H. Stenzel, San Lorenzo, Cal.

REG. GUERNSEY BULLS for sale. Grapewild Farm, Maybews, Sacramento county, Cal. A. B. Humphrey, Prop., P. O. Box P.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class, tboroughbred Holstein bulls for sale. Write for prices and pedigrees.

REGISTERED HOLSTEIN BULLS—Serviceable age. From finest strains. Panama Pacific Dairy, Sutter Creek, Cal.

JOHN LYNCH, breeder of Registered Shortborns. Milk strain choice. Young stock for sale Box 321, Petaluma, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

SUNNYBROOK RANCH, WILLITS, CAL.—Breeders Registered Holstein Stock. Young bulls for sale ready for service. Sired by De Kol Fobes Homestead 6th. Prices reasonable.

HOLSTEIN-FRIESIAN CATTLE and Berkshire Hogs. H. B. Goecken, Breeder, Goecken Heights, Livermore, Cal.

FIVE REGISTERED HOLSTEIN cows and four heifers prteed for quick sale. K. W. Abbott, Milpitas, Cal.

REG. JERSEYS—Herd establisbed 1868. Young bulls from best cows. Ranch Dos Rios, B. 2, Modesto.

REGISTERED HOLSTEINS—A. W. MORRIS & SONS, Corp., Importers and Breeders, Woodland, Cal.

REGISTERED HOLSTEIN BULLS from A. R. O. dams. J. W. Benoit, R. 2, Modesto, Cal.

REGISTERED JERSEY BULLS from register of merit cows. D. F. Conant, R. 5, Modesto.

CREAM CUP HERD—Registered Holsteins Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED JERSEY CATTLE—Young stock for sale. W. J. Hackett, Breeder, Ceres, Cal.

PALENDALE HERD of Reg. Holsteins. Young bulls for sale. J. A. Pelanda, Salida, Cal.

SUNNYSIDE HERD—Registered Holstein cattle. B. F. Guerin, R. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma.

A. R. O. REGISTERED HOLSTEIN BULLS for sale. Millbrae Dairy, Millbrae, Cal.

BREEDERS OF REGISTERED HOLSTEIN CATTLE—McAlister & Son, Chino, Cal.

BREEDER of Registered Holstein Cattle. Ernest Otto McClure, R. 2, Modesto, Cal.

REGISTERED JERSEY BULL two years old. Gentle. O. J. Ames, Oakdale, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto.

LINWOOD FARM—Registered Holsteins and Imported Guernseys, Santa Cruz, Cal.

REGISTER OF MERIT Jersey Bulls. $75 and up. **Murray & Jones, Ceres.**

REGISTERED HOLSTEINS—Golden West Herd. D. & H. Rowles, Modesto.

N. H. LOCKE CO., Lockeford, Cal.—Choice young Jersey bulls for sale.

PACKWOOD FARM HERD for Holsteins. W. F. Mitchell, Visalia, Cal.

HORSES AND MULES.

PURE-BRED Registered Percherons—A few choice young stallions two years old; also two, three and four-year-old fillies, majority in foal, for sale. Los Altos Stock Farm, Los Altos, Cal.

BEEF CATTLE.

WANTED—Two 3-year-old Shorthorn Bulls, pure bred but not registered preferred. Price must be reasonable. Address Room 301, 149 New Montgomery St., San Francisco, Cal.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Shorthorns, Villager and Avondale strain. Yearling bulls for sale.

SIMON-NEWMAN CO., Breeeders of registered Herefords. Newman, Cal.

HOPLAND STOCK FARM—Registered Short-horns. Prices on application. Hopland, Cal.

SWINE.

I HAVE ANOTHER CROP of seventy-five head of **Big Type Poland China Boars,** born in February, sired by **Iowa Wonder,** wbo is a son of **A Wonder,** tha **Greatest Poland China Boar, Living or Dead. Iowa Wonder** is in the **1000 lbs. class.** One of his sons from one of my good registered sows sbould make you money. I will sell tba best first. On account of being overstocked will sell them at $20 eacb while they last, but they will not last long at tbis price, so act quick if you want an extra good boar for little money. Geo. A. Smith, Corcoran, Cal.

BILLIKEN HERD of pedigreed O. I. C. Swine; weaned pigs of both sexes for immediate sbipment; pairs and trios mated, not akin. All from big type stock of extra heavy bone. Immunized against bog cbolera, crated and shipped free. Write for descrtptiva circular and price list. C. B. Cunningham, Mills, Sacramento County, California.

O. I. C. SWINE—Poor healtb is the reason for this offer. Will sell my berd of pure-bred O. I. C. Swine at prices that will turn them quick. Pigs two to eight montbs old, either sex. Write me for special prices. Every hog registered. G. H. Dubois, Box 13, San Martin, Cal.

BLUE-RIBBON HERD DUROC-JERSEY HOGS—Bred Gilts a specialty. 15 bred now. 20 ready to breed. Sires and dams win all blue rtbbons 1912, 1913, 1914 **State fairs. 15 first, 13 seconds, 6 thirds, 7 fourths, 1 fifth.** Will show 1915. For prices, write John P. Daggs, Modesto, Cal.

BERKSHIRES—Headed by Bandmaster 2nd, junior champion Iowa State Fair. My females were winners at Iowa, Wisconsin and Minnesota State Fairs. Farm at San Mateo. Address W. M. Caruthers, 218 Hearst Bldg., San Francisco.

O. I. C. REGISTERED STOCK—5 fine bred sows, 1 large boar. "Cream Cup Stock." None better. Closing out entire ranch and will sell at unusual prices. F. A. Raney, Riverbank, Stanislaus Co.

REGISTERED DUROC-JERSEY GILTS—14 to farrow in September. Also some Spring gilts. Foundation stock from Daggs and Ed Johnson berds. R. J. Ross, Modesto.

REGISTERED BERKSHIRE SWINE—All ages, for sale. Grapewild Farm, Mayhews, Sacramento, Cal. A. B. Humphrey, Prop., P. O. Box P.

REGISTERED PUREBRED BERKSHIRE PIGS—(Weanlings) both sexes. Reasonable prices. Write for full information. J. E. Hall, Sebastopol, Cal.

REGISTERED BERKSHIRES—Fine 3 to 6 months boars by Panama Lee, Gold Medal winner at 1914 State Fair C. E. Barrows, Los Molinos Cal.

BLATCHFORD'S PIG MEAL weans easily and safely; no trouble; no milk. Write for free folder, "The Safety Route from Pighood to Porkage." Coulson Co., Petaluma.

DEL DAYO FARM—(Old Haggin Bottom Ranch)—Breeders of Registered Berksbires, both sexes for sale. P. O. Box 1140 Sacramento, Cal.

DUROC-JERSEY BOAR—16 months old. Registered. For sale or exchanga. Sire and dam first prize-winners State Fair. A. P. Southworth Galt.

POLAND-CHINAS—200 bead. Fine individuals; weanlings to eigbt months. Satisfaction or money refunded. Geo. V. Beckman, Lodi.

FOR SALE—Cream of the Blue Ribbon Registered Duroc-Jersey Boars, ready for service. For prices, w ite: Ray R. Lapsley, Modesto, Cal.

REGISTERED DUROC-JERSEYS from choice Eastern sows. Two Fall boars and a fine lot of Spring pigs. S. S. Southworth, Napa, Cal.

POLAND CHINAS—Young stock; either sex. Write for pedigree. Reasonable prices. Edwd. A. Hall, Watsonville, Cal.

REGISTERED BERKSHIRES—Boar pigs, $10 each. Also aged boar, son of Double Premier. Extra fine. C. G. Wenger, Route 5, Modesto.

REGISTERED BERKSHIRE SOWS and tbair weanlings. Quality, health and vigor. Boars, all ages. F. H. Wilson Turlock, Cal.

REGISTERED BERKSHIRES—Six choice bred gilts. Weanling boar pigs. $10 each. Sow pigs, $12. J. M. Bomberger, Modesto.

PLAINFIELD STOCK FARM—Registered Berkshires and Durocs. Young stock for sale, both sexes. H. M. Bullard, Woodland, Cal.

REGISTERED DUROC-JERSEYS—Blue-ribbon stock. 8 gilts and one boar 9 months old. $20 each. H. E. Tong, Route 2, Modesto.

GLENVIEW POLAND-CHINAS—Baby pigs from best families for sale. From $15 up. Chas. R. Hanna, R. 3, Riverside, Cal.

IMPERIAL STOCK FARM BERKSHIRES—Quality and price guaranteed to satisfy. R. J. Merrill & Son, Morgan Hill, Cal.

LINDEN STOCK FARM—Registered Berkshires, both sexes, all ages, best of breeding. Write for prices, Linden, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford.

REGISTERED BERKSHIRE BOARS sired by State Fair winner for sale. Butte City Ranch, Butte City, Cal.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Duroc and Berkshire Swine. Weanlings for sale.

BERKSHIRES—Pedigreed Boars ready for service. Also pedigreed weanlings. C. H. Thompson, Novato Cal.

BERKSHIRES—80 head. Blue ribbon stock. All ages. Pure Gold Stock Farm, Elk Grove.

REGISTERED POLAND-CHINA HOGS—Cholera immune. W. D. Trewhitt, Hanford.

HOPLAND STOCK FARM — Registered Berkshires. Prices on application. Hopland, Cal.

POLAND-CHINAS—Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

FINE REGISTERED BERKSHIRE PIGS—Write or call Greenwod Ranch, R. D., Brentwood, Cal.

REGISTERED BERKSHIRES—Prize-winning stock. Sunnyside Stock Farm, Perkins, Cal.

DUROC-JERSEYS—Registered boars and gilts. John Decker & Sons, Turlock.

REGISTERED POLAND-CHINA HOGS—J. W. Wakefield, Acampo.

REGISTERED DUROC-JERSEY SWINE—Las Pederas Ranch, El Cajon, Cal. M. S. Allen, Manager.

REGISTERED POLAND-CHINAS—Large and medium type. Prize-winners. W. A. Young, Lodi, Cal.

DUROCS—Weanlings and a few choice bred gilts. H. E. Boudier & Son, Napa, Cal.

NOB HILL STOCK FARM—Registered Poland-China Swine. A. M. Henry, Farmington.

DUROC BOARS of Advancer and Chief. Breeding guaranteed. E. C. Curtis, Napa.

REGISTERED POLAND-CHINAS and Duroc Jerseys. T. H. Beckman Lodi, Cal.

POLAND-CHINAS—Prize-winners. Money-makers. W. Bernstein Hanford, Cal.

ROADOAKS RANCH herd of registered Poland Chinas. W. J. Hanna, Gilroy.

REGISTERED BERKSHIRES—Young stock for sale. F. W. White, Elk Grove, Cal.

CHAS. GOODMAN—Breeder of high-class Berkshire Swine. Williams, Cal.

POLAND CHINA HOGS—Registered. R. J. Miller, Llewellyn Ranch, Latbrop.

REGISTERED POLAND-CHINA HOGS—J. A. Clark, R. 4, Lodi, Cal.

REGISTERED O. I. C. SWINE—C. D. CONWAY, Lakeport, Cal.

POLAND-CHINA HOGS—C. A. Stowe, Stockton Cal.

SHEEP.

FRANK MEACHAM, Petaluma, California.—Breeder Shropshire, Ramouillets, American Merinos, both sexes. Take electric car at Santa Rosa or Petaluma for Live Oak.

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MISCELLANEOUS.

FOR SALE—Registered Berksbira Roar, 2 years 3 months old; also five pure-bred Berkshire Boars tbat are ready for service. These are eligible to register. **Also:** 20 Dairy Cows for sale. The above stock can be seen at our ranch at Cement, California, Solano County, near Suisun. Pacific Portland Cement Company, Consolidated.

ALFALFA SEED—If you are going to be in tha market for Alfalfa Seed, get into communication with us at once. Will soon be harvesting the new crop. Booking orders now. Write or wire. V. A. Peterson Alfalfa Seed Co., Arbuckle, Calif.

BREEDER of Registered Holsteins and Poland China Swine. E. E. Freeman, R. 5, Modesto, Cal.

Veterinary Queries and Replies.

[Answered by Dr. H. B. Wintringham, Petaluma, Cal.]

PIGS LOSING WEIGHT.

To the Editor: I have some young pigs about five months old. They have quit eating and are dropping off in flesh. The boar pigs are swelled underneath in the center and they are all weak on their hind legs and walk around hanging their talls. Do you think that feeding them peaches and cantaloupes has anything to do with it? Kindly inform me if there is any cure or what the trouble is.—C. P. Y., Turlock.

[Change these pigs' rations immediately and put them on grain for awhile. When they become improved, you can gradually substitute fruit again for part of the grain ration.]

HORSE'S JOINT INJURED.

To the Editor: One of my horses has recently been severely cut on a disc; cut is located a few inches above fetlock joint on inside of right hind leg. The attending veterinarian said one of the tendons is cut and the other partially. When stepping on foot, fetlock nearly touches the ground. Am treating her as directed by veterinarian. Will the horse ever recover?—R. E. S., Lanare.

[The tendon is severed. Recovery will depend on the treatment. It will be advisable to apply a soft bandage to the leg and cover this with electrician's tape to support the leg while the tendons are uniting. This bandage should be changed every few days and the wound dressed.]

CHICKEN LICE.

To the Editor: Kindly tell me how to get chicken lice out of a combination chicken house and stable for horse. Stable is two story and buggy shed on one side. Horse is in danger of the lice and therefore keep him in yard in summer, but must have a stable in winter.—H. C., San Jose.

[Tear your chicken house down from the barn and rebuild it by itself then spray it once a week with any of the commercial disinfectants on the market. It is very inadvisable to have a chicken house in connection with a building for any other purpose.]

BULL'S TONGUE SWOLLEN.

To the Editor: About three months ago my bull began to develop a swollen tongue. Had a veterinarian examine him, but he could not locate the trouble. The root of the tongue seemed all O. K., but from the base out the bull seemed to have no control of it. It is hard, but no sign of abscess has shown. It is hard for him to chew his cud and to drink.—G. S., Salinas.

[This is Actinomycosis of the tongue, sometimes called wooden-tongue. Put the animal on potassium iodide given in two drachm doses three times a day on an empty stomach. Dissolve this in water. This is the only drug which has a specific action on this trouble.]

HOGS AND DRY-FARMING.

To the Editor: I have just been reading the article, "Hog Growers' Opportunity in California," in the issue of Aug. 21st, and think it very good and excellent advice to the people of this state.

The trouble with a great portion of the state is that there is no water and everything has to be grown under dry farming conditions. I find it very difficult to get information on scientific dry farming. People in this part of the state think that grain, and mostly barley, is the only thing that can be grown on dry land. It seems to me that by using proper methods, we can grow a great many different things, even to having green succulent foods at all times for cattle or hogs.

It would be a great help to the farmers in the dry land districts of this state, and there are a great many of them, if you could give a space in your paper devoted to scientific dry farming. This space to be used by the different farmers, who are trying to work out methods for better use of the semi-arid lands, to discuss their methods and thus help each other along. I hope you will be able to give us some assistance in this line and help the dry land farmers to make better use of their land. E. S. T., Arlington.

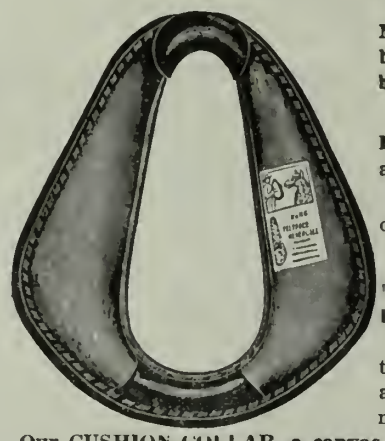
[We surely will; go to it, all you dry farmers; our columns are open. And our correspondent has about the right idea of the way to get "scientific dry farming." It depends upon tillage, times and ways for doing things and right choice of plants, and all these are largely local questions. The theory is probably pretty well understood and we have set it forth many times. Now we want to know what any reader has succeeded in doing, for that will help all to do the right things. Who has hogs by dry farming?—Editors.]

The Soledad Creamery is turning out 900 lbs. of butter daily.



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Our CUSHION COLLAR, a canvas and leather Boston Team Collar, is now to be had for $3.00.

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We will sell KING SEGIS PONTIAC EMPEROR, one of the greatest bred bulls living today, and several other young bulls fit to head any herd in the world, including:

A son of SEGIS PONTIAC DE KOL BURKE, out of the highest record daughter of DE KOL BURKE (7 thirty-pound daughters), 32.76 lbs. at 4 yrs. 1 mo. Dam and sire's dam average 32.52 in 7 days and 125.36 in 30 days.

A son of ARALIA DE KOL PONTIAC SEGIS from a 31.78 lb. daughter of DE KOL BURKE.

A son of ARALIA DE KOL PONTIAC SEGIS from DE KOL OF VALLEY MEAD 2D, for three consecutive years awarded FIRST PRIZE BY HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA on her butter records in long distance tests, and for three years first-prize heifer in show ring. His dam and sire's dam average 1077 lbs. in one year, both having made world records.

A son of SEGIS PONTIAC DE KOL BURKE, out of MISS BLANEY, 27.60 lbs. in 7 days and 1008 lbs. in one year. Dam and sire's dam average 29.95 in 7 days and 1047 lbs. in a year.

In every respect the best lot of young bulls that have ever gone out from our herd—THE RIGHT BREEDING—THE RIGHT TYPE—backed by VERY LARGE RECORDS in both short and long time tests—the kind that will add prestige to your herd and sell your surplus stock at top prices.

Buy your herd sire here and have the advantage of seeing what you are buying and the assurance of immediate delivery.

For catalogs and information write

A. W. MORRIS & SONS' CORPORATION, Woodland, Cal.

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THORNTON S. GLIDE, Prop., Davis, Cal.

Breeders of

Short Horn Cattle
Shropshire and Merino Sheep

ATTENTION, SHEEPMEN.

My pure-bred, range-raised yearling Shropshire and Merino rams are now out of the mountains and ready for inspection at my place.

Shropshires sired by rams imported by me from England in 1911.

When Will Cows Pay?

To the Editor: I am starting in the dairy business and hope to keep from 5 to 8 cows. Hay has been $4 to $5 a ton, but is going up and now is about $7; may go to $10 by spring. How high priced hay can a man feed to cows so as to get what his hay is worth in the stack and some for his work? How much should a man get from an average cow in a year? Butter fat is 29 cents here now; at that price can a man do better to sell his hay for $10 to $12 a ton or to feed it to cows at the price of butter fat now? Cows are high—from $90 to $100 each. Would it pay to feed some grain to the cows; if so, what and how much? I have just commenced to sell cream; the first time it tested 30, the next 34, the next 28. What is the reason? It was from the same cows and separated the same. I have been told that a pound of butter fat would make a little more than a pound of butter. How can anyone get more than a pound out of a pound? In feeding cows, can a person increase the richness or just increase the flow of milk? I intend to milk my cows for what I can get out of them; not for a pastime, so if I feed $2 worth of grain to a cow I hope to get more than $2 back.—E. L., Winton.

[The price of alfalfa hay never goes so high in your section as to prohibit the feeding of it to good dairy cows. The question of what priced hay dairy cows can pay out on is entirely one to be settled by the cow. If a cow produces but 150 pounds fat a year on $10 hay, you are not getting rich fast. If, on the other hand, she gives 230 pounds fat a year, hay is worth more than $10 a ton. The average cow consumes about six tons of alfalfa hay a year so you can pretty accurately determine how much you are getting for your hay by the annual butter fat production. To this should be added about a pound of rolled barley, dried beet pulp, and cocoanut meal for every seven pounds of milk a cow gives. The calf and skim milk should about offset the labor. Your chief trouble, like many other hay growers, seems to be that you lose sight of the cheap hay prices as soon as hay goes up in price. According to your own figures, the average for hay there is nowhere near $10 a ton. Unless we are very much mistaken, cow values will suffer this fall and winter simply because so many hay men jump out of the dairy business as soon as a little spurt in the hay market comes along. It would seem that the last two years' experience would cure everybody of that fault, but it is doubtful whether it has or not. If you can once understand that dairying requires consistent building to be profitable, you will not be alarmed about such hay prices as are now prevalent. No man can make money dairying who is in one season and out the next. Get the best cows you can and breed them to the best bull you can get. Keep it up for a few years and weed out any poor actors with the scales and Babcock test. If you will follow that closely, you will know better than we do how much hay is worth. The variance in your cream test is probably due to irregular speed of the separator. If you turn it fast, your cream is thicker. If slow, it is thinner. The temperature of the milk at separation would also affect the test. The reason that a pound of butter fat makes more than a pound of butter is due to the moisture and salt which is added in the churning. The overrun in this way is responsible for the creamery man paying you as much for fat as he gets for his butter. This overrun of 15 or 20 per cent constitutes his cost of manufacture and profit. The only way feeding might affect the quality of milk is where a cow is not fed all she desires. A change from one ration to another will not make the milk richer, but it will oftentimes greatly increase the flow. Feed a pound of barley to every 6 or 7 pounds of milk and you will find it money well spent.—Editors.]

MILK STABLE CONSTRUCTION

To the Editor: How can I find out the best arrangement, the necessary floor space, and the cost of materials for a cow barn for 15 cows—nothing fancy, but substantial and clean.—R. D. Kellogg, Richfield.

[Answered by F. W. Andreasen, Sect'y State Dairy Bureau.]

[A milking shed for 15 cows, built either at right angles to the barn where the feed is stored or at the end of same, should be about 20 feet wide and from 50 to 57 feet 6 inches long, according to the space allowed for each cow. This space is usually from 3 feet to 3 feet six inches. Where the cows are only to be kept in the barn while fed and milked the space for each cow is generally only 3 feet. Allowing only the latter space, 45 feet for the cows and a gangway 5 feet wide at the end where the shed connects with feed barn would be sufficient. There should be concrete floor arranged as follows: feed alley and manger from outside wall to stanchions, 8 feet; floor stanchion to gutter 5 feet, with one inch fall to gutter; gutter 18 inches wide; passage way from gutter to outside wall 5 feet 6 inches. There should be about ten 2 by 3 feet windows in the barn.

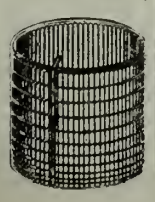
Another plan would be to build the shed for 16 cows with two rows of cows and a feed alley 10 feet wide between the rows. This milking shed would be about 29 feet by 34 feet and could be extended if the herd increased in number. The cost of the concrete floor and foundation would be about $200.00. The cost of lumber and building can best be estimated by a carpenter when he knows the price at which lumber can be placed on the ground.]

SHADE FOR HOGS.

In talking with a Pacific Rural Press representative recently W. S. Guilford of Willows, Glenn county, was very emphatic about the need of shade and plenty of water for hogs during the summer months in the great interior valley:

"I know of a number of valuable registered breeding hogs that have been lost this summer because they did not have shelter and a chance to get moisture, either from a water and mud wallow or a concrete wallow, and plenty of water to drink. During our hot periods a hog gets great relief from the heat if it can get water all over the surface of its body. In evaporating this cools the animal and makes it possible to endure the heat without great discomfort."

REDWOOD TANKS
SILOS
Water Troughs, Windmills, Frames, and Towers, Steel and Wood. Prices the lowest.
BROWN & DYSON,
640 So. Center St., STOCKTON, CAL.



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175 High Class Registered Holstein Friesian Cattle
Tuberculin tested.

Greatest in number of high record cows!
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Bred to the greatest milk-bred bulls in the world!—including sons of cows that hold every World's milk record from 7 days to 3 years.
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Royal Jersey Herd
HANFORD FAIR GROUNDS
September 16, 1915.
Heifers Sired by Gertie's Son, 66463. Register of Merit Cows in Calf to Gertie's Son.
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All Stock Registered.
Bulls of Highest Quality.
YOUNG SOWS AND BOARS of finest Breeding and Type.
Prices on Application.
HOPLAND STOCK FARM
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A GUERNSEY BULL
is a sure way to increase your profits. Grade up your herd by using a pure bred Guernsey Bull and you will be surprised at Results.
Send for free literature.
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CHOLERA IMMUNE
Our herd is Cholera Immune, the only Immune Berkshire herd in the State.
Five herd boars in use and they are second to none on the coast. Our sows are of equal merit.
We have at present some 300 Berkshires and we know that we can supply what you want.
Write Us or Call.
OAK GROVE DAIRY FARM
H. G. ARMSTRONG, Prop.
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FOR SALE
8 choice, registered tuberculin-tested
Short Horn Bulls
Aged 18 to 25 months.
Also 5 aged 8 to 13 months.
H. L. MURPHY,
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POLAND CHINAS
(Large Type)
YOUNG STOCK FOR SALE
(Both Sexes)
THE BROWNING STOCK FARM
W. H. Browning, Prop.
Woodland, California



Calf Profits
Are you getting them? Calf profits mean more to you now than ever before.
Blatchford's Calf Meal
has been known since the year 1800 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the makers.
Write for New Data See actual figures showing you how to increase your calf profits.
F. F. SMITH & CO. - Sacramento, Cal.

Fine Stock Consigned to Sacramento Sale

We are mailing you today a cut of four yearling daughters of King Segis Pontiac Emperor which are not surpassed by any other four heifers in our herd for high individual quality, breeding and official record backing. Two of these are from dams with yearly butter records above 800 lbs., one of which is a three-quarter sister to Aralia De Kol, 1142 lbs. butter and 28,090 lbs. milk in a year.



Four Yearling Daughters of King Segis Pontiac Emperor.

These heifers with their sire and ten of their sisters will be sold at the Morris-McAlister Sale at Sacramento, Oct. 6th and 7th. In no sale ever held to our knowledge has there been included 14 sisters that are their equal in respect to type and high record ancestry, two being from 31 to 33 lb. dams, three from dams with 800 to 1000 lbs. in a year, one from a 27 lb. 4-year-old daughter of a 33 lb. cow, one from a 28.87 lb. 4-year-old daughter of one of the breed's greatest proven sires, and all others from cows with high records.

As to the breeding of King Segis Pontiac Emperor it is only necessary for us to say that he is by King Segis Pontiac whose dam is full sister to King of the Pontiacs, whose daughters have broken more world butter records than the daughters of any other sire. King Segis Pontiac Emperor, as an individual, has but few equals, having already been awarded three first prizes at California State Fair, and he is already a proven sire, his first daughter to drop her second calf having made 23.90 lbs. in 7 days. For the breeder in search of a real high class sire, or the man who contemplates establishing a pure bred herd of the highest order, this bull and his fourteen daughters, carrying calves by bulls of unusual breeding, is an opportunity that has never been presented at public sale.

A. W. Morris & Sons Corporation.

Farm Poultry for Profit.

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

CHEAP POULTRY HOUSES FOR FARMERS.

The average small rancher would like to increase his flock of poultry, but is often held back from doing so on account of incurring cost in building. This is the case, too, with some men who through force of circumstances are compelled to rent land. They would like more poultry, and the keeping of a good sized flock would help out their incomes and work no injury to the landowner, but they can't afford to build houses to leave on another man's premises, and so it goes that this side of the farm life is neglected.

Now one of the first lessons the farmer in a new country gets is that unless he can get a cover over his stock and machinery he is bankrupt before he starts. This causes men to think up some means of doing this very cheaply.

Pioneer Barns.—Our first barn in Dakota was made of sod, but as we had not put in enough timbers, the cattle pushed the walls down and the cold and snow drifted in. The second was hay with heavy timbers enough to hold the roof up, and as the walls were about six feet through it took the cattle a long time to eat their way out. This idea was quite common in Dakota in pioneer days; make your roof strong, then build a haystack over and around it. Later we improved on that idea and built a frame near the grain stacks where the thresher could throw the straw over it. A man with a fork worked the straw along evenly, as the thresher threw it on top; and when the grain was threshed we had a nice place, commodious and warm. After the straw got settled, holes could be sawed in the sides to let in light during fine weather and a sort of shutter arranged to protect from snow and cold during the night.

Fodder Houses.—All over this State there is some kind of cheap fodder, it matters little whether it is Kaffir corn fodder, real corn fodder, spoiled hay or bean straw, wheat straw, etc. Any or all of these could be made to serve as shelters for poultry. I would make the outer frame fairly strong and put rough poles over the roof, then tack on poultry wire to hold the roof up so that when it rained the sagging would not let the water run in the building. Kaffir corn fodder could be made like the old thatched roof and battened down. If there is plenty of material on hand, the whole building could be of the same material and if it was made large enough it would make an excellent place for the chickens to seek shelter on rainy days.

If mites or other vermin got in during the summer it could be burned, or moved to new ground and the loss even if burned would not be felt, after it had served a season's usefulness.

The roof, being the main feature of a building in this part of the State, should project quite a bit all the way around; and if this is done and the building is rather low, just leave it free to the sun and air and your chicks will be sufficiently sheltered. Where the rainfall is heavy, it would be well to have three sides closed in, leaving the front only open.

The Paper House.—This is another cheap house, though it costs considerable more than the straw or fodder house and will not be so cool in summer. In making this house the frame need not be heavy; in fact, the whole thing can be made of either one-by-threes put on flat, or the 1½ inch stuff called "tree props."

Make the frame as large as wanted; a house 8x12 will accommodate fifty hens and give ample room for feeding in rainy weather. Put the dropping boards and perches crosswise, or if dropping boards are excluded sling the perches from the roof with baling wire. The cheapest wiring to use is the thin spool wire; tack this cross-wise over the frame of the roof and up and down, or lengthwise of the three sides and ends, tacking with a double pointed carpet tack at each stud or rafter. When the wiring is done, spread your paper, being very sure to pull it tight and keep it so until fastened down. If the item of expense is too much for paper all around, just use it for the roof and use burlap or gunny sack cut open for the rest. The life of gunny sack in summer is about eight to ten weeks, when it must be renewed; in winter, it will last three months and is plenty warm enough for any poultry, except small chicks. Personally, I prefer to have the frame houses covered with 2-inch chicken wire. When this is well stretched and tacked down thoroughly it increases the life of the paper indefinitely, because when the paper gets worn it can be painted over with some coal tar product and be just as good as new. I have one roof that has seen three year's service and is as good now as the first day because it was put on right; another one with just one year's service needs replacing because it was let to sag down in the first place, and the paper wore itself out in chafing. Where the rainfall is heavy, alfalfa hay would make as good a roof as any if it was put on in the manner of the old-fashioned

Classified Advertisements.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

WANTED.

WANTED—About seventy-five young men and women to enter the WESTERN NORMAL on August 30th, to prepare for teaching. Western Normal graduates secure and hold good positions. We assist graduates to secure good positions and promotion. We save you time and money. For information address, WESTERN NORMAL, J. R. HUMPHREYS, Principal, Stockton, Cal., Box 704.

COMBINED STENOGRAPHER AND CHOREMAN, competent, business experience, run engine; sober, industrious, now employed; wants engagement on or before November 1st. Good references, furnish bond if desired. Address Box 14, care Pacific Rural Press.

EXPERIENCED POULTRYMAN wants position to work up plant. Start moderate salary, increasing according to results Box 22, Pacific Rural Press.

WANTED—A middle-aged woman to cook on ranch. A co-operative interest probable. Box 217, Pacific Rural Press.

MISCELLANEOUS.

APPLES—Buy direct from the producer. Bellflowers now ready. Bulk pack, 4 and 4½ tiers. Graded to Fancy, 70u per box F. O. R. Watsonville. Satisfaction guaranteed. Try a box or two. You will recommend them to your friends. Edward A. Hall, Watsonville, Cal.

SECOND HAND WATER PIPE and screw casing. New threads and couplings dipped in hot asphaltum. All guaranteed. Send us your inquiry. SHECTER PIPE WORKS, 306-8 Howard St., San Francisco.

"SMITHS' PAYS THE FREIGHT."—To reduce the high cost of living send for our Wholesale to Consumer Catalog. SMITHS' CASH STORE, 106 Clay St., San Francisco.

LIVING EXPENSES REDUCED THROUGH CO-OPERATIVE BUYING—Write for catalogue and particulars Pacific Co-operative League, D236 Commercial St., S. F.

APPLES. APPLES. APPLES—3 boxes choice, assorted apples, prepaid 100 miles, $2.00. Blue Ribbon Farm, Sebastopol, Cal.

FOR SALE—Steam Traction Well Drill. Good for 1000 feet. Write for description and terms. Box 561, Dixon, Cal.

TRACTOR PLOWING by time or contract. Special plow for hard ground. J. W. Seitz, Mountain View Cal.

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INSTRUCTION BOOKS and prices, bees, supplies, etc., free. Spencer Apiaries, Ventura, Cal.

LAND FOR SALE.

FARMS WITHOUT MONEY—We have 20-acre homes for twenty families. Level Sacramento Valley loam soil in Sutter county, ½ mile from Electric Railway depot.
WE WILL WORK WITH YOU AND WAIT TILL YOU GET THE MONEY—No cash payment. All we want is for you to be a practical man, and to put up a dwelling to cost not less than $150, an electric irrigation plant giving 18,000 gallons per hour, which we can furnish for $130, and a well which will not cost over $75.
WE WILL PUT THE LAND IN AT THE REDUCED WHOLESALE PRICE OF $115 PER ACRE.
No interest the first year; 7% the second year, and $10 per acre on principal the third year. Balance to suit. WE WILL MAKE EVERY ONE OF OUR CUSTOMERS A SUCCESS, but you must act now to take advantage of this offer. Come now and make your choice of land. 621 J Street. WATT & CO., Sacramento, Cal.

SCHOOL LAND. NEW OPENING—School Land State map shows location of valuable School Land in almost every county. Map shows towns, roads, and other data Easy to see and select your choice. Men and women may buy 40 acres or more. Order NOW. Price, $2.50. This map may be worth $1,000 to you. California State Land Information Bureau, Joseph Clark, Manager, 1511 K, Sacramento.

40 ACRES TURLOCK—$5000—Rich silt loam, 15 feet deep, very level. Irrigation easy by pumping. No ditch assessments. No better land anywhere for hogs and cows. Liberal terms to responsible party. N. D. Chamberlain, 5905 Keith Avenue, Oakland.

FARMS WANTED—We have direct buyers. Don't pay commissions. Write describing property, naming lowest price. We help buyers locate desirable property Free. American Investment Association 93 Palace Bldg., Minneapolis, Minn.

FOR SALE—60 acres. Easy terms. Level land on Oakland-Antioch car line close to Oakland. ½ mile to school. ¼ to station. $100 an acre. Address Owner, T. E. Patterson, Manteca, Cal.

FOR SALE—Beautiful country house near Capitola Two and a half acres chiefly in cherries. Seven-roomed house and outbuildings. Address Owner, P. J Archibald, Soquel, Cal.

563 ACRES winter sheep pasture, 16 miles east of Sacramento. Will take payment in bred ewes. Inquire E. H. Boyles, care California Fruit Exchange, California Fruit Building, Sacramento, Cal.

5-ACRE POULTRY RANCH, ½ mile from city limits. Good buildings; new fence; unlimited water supply. Good soil. Grow anything. Main road. Box 673, Livermore, Cal.

IMPROVED STOCK RANCH for sale or trade. 448 acres. Some alfalfa land. C. O. Thompson, Santa Margarita, Cal. Open to agents.

FOR SALE—10 acres improved. Cow, chickens and furniture. Pumping plant. Write for particulars. Box 561, Dixon, Cal.

WANTED GOOD FARM, or unimproved land from owner. H. L. Downing, 145 Palace Bldg., Minneapolis, Minn.

TREES AND NURSERY STOCK.

BURBANK'S SPINELESS CACTUS—Hardiest varieties Melrose and Special. Strong mature slabs, $3.50 per 100; $50 per 1000. Labranza Ranch, Athlone, Merced Co., Cal.

Swineland

TAMWORTHS. DUROC JERSEYS
We have for sale, fine young stock, both sexes; also boars ready for service and bred sows. No better stock in this State. We have recently moved our big breeding establishment from Yuba City to Woodland.
Write or call and see us.
SWINELAND FARM.
W. O. PEARSON, Prop. WOODLAND, CAL.

thatch and stitched across with baling wire.

Other Uses of Cheap Houses.—This is the time of year to get ready for increasing the size of your flock, so that it will be to your advantage to build a few of these cheap poultry houses; they can also be used for ducks, and, with a fly arranged to the size of the house, for pigeons. So that no matter what sort of feathered pets you want to keep, these cheap houses will be better and more sanitary than the old mite-ridden lumber house that is full of cracks that never seems to be clean. They could be made rat-proof and rabbit-proof by putting a one-inch wire poultry mesh under ground about one foot. They would be much better for breeding rabbits as there could be more room allowed for exercise than is generally given in these small hutches. When spring comes, a few of these cheap houses would come in handy for the young turks, as they could be kept off the damp grass in a morning longer than in a small coop filled with light.

A GIANT GRASS FOR FOWLS.

[Written for Pacific Rural Press by Geo. H. Croley, President Federated Poultry Ass'n of California.]

During August, September and October a very large percentage of poultry keepers complain that they are short of green stuff for their fowls. With only a small patch of land and a very moderate amount of water, this trouble may be disposed of by planting a giant variety of grass that is now available. All farm animals relish and thrive on it; in fact when the value of this giant grass is properly appreciated by the farmers of California, the livestock business will be stimulated in a marked degree and will add many millions of dollars annually to the income of our agriculturists. Nothing can equal it for silage; it is superior, for this purpose, to any other product of the soil.

When raised for the purpose of securing seed, it must be planted so as to allow ample time to mature; and it will then grow, in four or five months, to a height of 6 to 14 feet and return, under favorable conditions, quite one thousand fold.

When sown in a more compact mass to produce green or dry forage, its rapid growth is amazing. The writer has an experimental plot of not extra good soil, in which on the evening of Aug. 1 he sowed two varieties—one a yellow seed sort and the other a white seed variety—and this morning, twelve and a half days after planting, the average height of beautiful, tender grass is about nine inches as it stands, with a number of blades that when held upright along the rule measure over 14 inches.

It produces from 25,000 to 45,000 pounds of green forage per acre; all animals take to it greedily. Fowls devour it completely even to the greater part of the roots. The whole plant contains much sugar which no doubt accounts for its palatable qualities. The seeds, which may be produced at the rate of 40 to 100 bushels to the acre, contain almost 70 per cent of pure starch and 5 to 8 per cent of fat.

We now have evidence that this giant grass was extensively cultivated by the inhabitants of Yucatan before the arrival of Europeans in America. The insignificant primitive weed from which it was no doubt evolved by the natives of that country, has been found growing in the wilderness of that part of Central America. When the Spanish invaders overran that country, they destroyed practically all historical and other records; otherwise, we might be fully acquainted with the history of its development by these ancient people.

Unlike most other grasses, this does not readily lodge; only a tornado or a flood of water will cause it to lean or tangle. It has been grown without a drop of water either from rain or irrigation from planting to harvesting of a good crop of matured seed, but this is very exceptional and it should be understood that ordinarily considerable moisture is necessary. This demonstrates, however, that it is a wonderfully aggressive and vigorous plant that can thrive in almost any climate.

POULTRY NOTES.

The monthly report of the Tulare Co-operative Poultry Association shows a substantial gain over the same month in 1914. The total business handled by the Association in July was $4372, and $2716 worth of eggs were shipped.

Poultry Breeder's Directory

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

BABY CHICKS—R. I. Reds, Barred Rocks, Black Minorcas, White and Brown Leghorns. All from fine stock. Hatched right. Shipped right. Also Flemish Giant rabbits. Write us. Campbell Poultry Ranch, Campbell, Cal.

WHITE PLUMAGE POULTRY FARM and Hatchery. Sells Fall and Winter chicks. White Leghorns, Barred Rocks and Rhode Island Reds. Circular free. H. A. Schlotthauer, Exeter, Cal.

BARRED PLYMOUTH ROCKS—"The kind that Win and Lay." Choice stock for sale. Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

THE SANTA CLARA VALLEY HATCHERY can fill orders for 8 varieties of baby chicks and ducklings. J. A. Bihn, R. 6, San Jose, Cal.

CROLEY'S EVERLAY EGG MASH AND CROLEY'S SCRATCH FEED form a perfect balanced ration. Ask your dealer for them.

TRAPNESTED LEGHORNS—White and Buff Stock. Eggs, chickens. Arthur R. Schroeder, Box 179E, Mountain View, Cal.

ORPINGTONS, BUFF AND WHITE, Black Minorcas and Carneux pigeons. Mrs. Susan Swaysgood, Pomona, Cal.

HARES AND RABBITS.

LEADING RABBITRY IN AMERICA—Flemish Giants and New Zealands Cut your living expenses Catalogue free. Empire Rabbitry, Empire, Cal.

BOSWORTH'S Imperial Red New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville, Cal.

BELGIAN-FLEMISH young does for sale reasonable. Loma Vista Ranch, Box 623, Livermore, Cal.

BELGIAN HARES—Young stock for sale. Hurd Bros. St. Helena, Cal.

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INDIAN RUNNER DUCKS—Rbode Island Reds. Thoroughbred laying stock, $1.00 each. Males, $1.50 each. Hatching eggs, $5 100. Nutman, 295 Page St., San Jose.

HART'S BRONZE TURKEYS—Limited number of last season's breeders for sale at reduced prices. Albert M. Hart, Clements, Cal. (Successor to Ed Hart.)

CHICKENS, DUCKS, GEESE, GUINEAS, PEA FOWL. Address Wm. A. French, 545 W. Park St., Stockton, Cal.

PIGEONS.

WHILE THEY LAST for $3 per dozen. Plymouth Rock Homer Pigeons. Very fine. Geo. M. Bosworth, Geyserville, Cal.



Now is the Time to Feed
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to your pullets as well as your hens, commencing at the age of three months.

Write for free book "Chickens" from shell to market.

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Petaluma, Cal.



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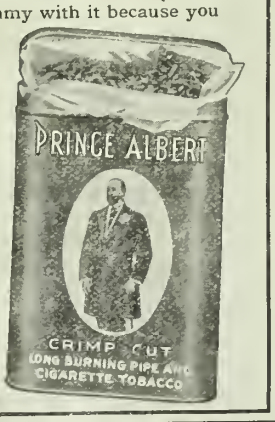
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YOU don't have to call for an encyclopedia to find out how P. A. sets on your taste! You just open up your supply, fill your old jimmy pipe or roll a makin's cigarette, strike a match—and puff away! Because, you have struck tobacco happiness on the first bound—and you're set for the future on the smoke question. The patented process fixes that—and cuts out bite and parch!

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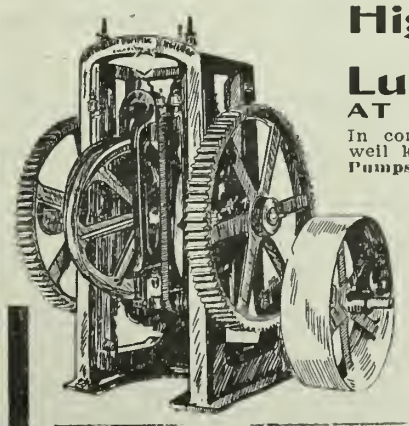
Gentlemen, here is the friendliest smoke a man can put in his pipe or roll into a cigarette. *We* know, *men everywhere* know, and *you'll know* that what we tell you is government-bond-good just as soon as you prove it out in your pipe or cigarette! We tell you our printed word has never yet struck within 50% of what P. A. will produce in tobacco satisfaction *for you!*



Prince Albert is sold everywhere in toppy red bags, 5c; tidy red tins, 10c; handsome pound and half-pound tin humidors—and that fine crystal-gloss humidor with sponge-moistener top that keeps the tobacco in such splendid trim!

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AT BOTH EXPOSITIONS

In competition with practically all other well known pumps, the famous **Luitwieler Pumps** were given the **Highest Awards** at both the San Francisco and San Diego Expositions. Luitwieler Deep Well Pumps and Triplex High Duty Pressure Pumps are again given supremacy. They always carry off the highest honors. You will do well to install the Luitwieler Non-Pulsating System. It will save you money every day in the year, and you need never worry about breakdowns or excessive operating costs. The Luitwieler will positively prove the best and cheapest in the end.

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Standard Bred S. C. White Leghorn Cockerels, selected for Breeders. Four months old, $12 per dozen; Yearling Hens, $12 per dozen. Standard Bred White Plymouth Rock, Fishel and Owen Farm Strains Direct. Hens one and two years old $18 to $24 per dozen. Four to five months old pullets, $18 per dozen. Selected Cockerels and Cock Birds, $5 each and up.

The Home Circle.

THE GROWN-UP ME.

I do so wish that I could see
The grown-up girl that will be me,—
Such heaps of things I want to know,
And she could tell me if they're so:

If they let her stay up till late,
And not go off to bed at eight,
And how it feels, way off in then,
To stay down-stairs awake till ten.

And if she ever wants to cry—
The grown-up me in by and by—
(But I don't think she could, do you?
If all the things I want come true.)

But when she's here, grown up and tall,
There'll be no "little me" at all;
So I shall never, never see
The grown-up girl who will be me!
—Margaret Widdemer, in St. Nicholas.

DOROTHY'S MISTAKE.

Dorothy had a long talk with Mother as to what she should wear. Mother suggested a pretty new gingham as being dainty and suitable, if they should want to play games—

"But, Mother," said Dorothy, "Marian's friend is from Boston, and her father is a m-m"—

"Millionaire?" suggested Mother.

"Yes, Mother; and they live in a grand house, and have a cottage at the seashore, and—and— Do you think she would play rough games as we do? O Mother, I would like to wear my pink silk!"

Mother smiled. She knew that Boston little girls were very much like other little girls; but it was hard to resist her daughter's pleading eyes, and it was better for her to learn some things for herself. So Mother helped her on with the pink silk. It was a pretty dress, of the soft pinky tint one sees in the inside of a seashell, and it was kept for very, very grand occasions.

Dorothy felt very fine, indeed, as she ascended the steps of Marian's house with Marjorie Marie in her arms. Marjorie was a wonderful doll who was also kept for state occasions.

Smiling, Marian opened the door. For an instant there was a blank look in her eyes; but it melted into a smile as she helped Dorothy take off her hat, and led her into the parlor to meet the little guest. Dorothy fancied that little Miss Boston also looked troubled for an instant, but she smiled very pleasantly.

Dorothy noticed at once that both little girls were plainly clad, and it made her feel quite over-dressed; but Marian ran upstairs for her dolls, and the little girls were soon seated on the sofa, admiring Marjorie and chatting merrily.

Suddenly Marian's brother Rob burst into the room in such a startling costume! It was not a baseball rig, and yet it was something like one,—bright red and yellow and curiously puffed and slashed.

"Come on, girls!" he cried impatiently. "It's after two, and we're all ready. Harry Lee's brought his trick monkey," he added with a delightful grin.

Marian gasped, and Miss Boston's upper lip trembled a little; but they were brave little girls, and very polite. They exchanged looks. It would never do to take that silk dress to the barn.

"Not this time, Rob," said Marian, quietly, giving him a warning glance; for she saw a troubled look on Dorothy's face. But Rob was so stupid!

"Aw! why?" he cried. "When you've been talkin' about it all day? What's got the matter with you?"

"We're not going, Rob," said Marian, firmly, with a little spark in her eyes.

Rob turned and stamped down the hall and slammed the door. The pleasure was gone from his afternoon; for he, too, had counted on dazzling Miss Boston with his trapeze performance.

While Marian was trying desperately to think of something to say, the troubled look on dear little Dor's face deepened. Suddenly all the visiting dignity disappeared, and she buried her head in Marjorie Marie's ruffled skirt with wild sobs.

"Oh, I wish I had my gingham dress on!" she wailed.

Then the other girls burst into tears. They crept as close to Dorothy as they could, but they did not dare to put their arms around her on account of the pink silk. How Dorothy hated it!

All at once Marian sprang to her feet.

"Come upstairs and put on one of mine!" she cried excitedly.

Up the broad stairs the three little girls tore wildly, leaving that elegant French lady doll with her waxen smile buried in the fur rug in front of the sofa.

"Hurry, hurry!" cried Marian, as they struggled with the fastenings of the gingham, which was a trifle small for plump Dor. "We'll be in time, after all."

A moment later Marian was pounding on the barn door. Rob thrust his head out. He grinned broadly before he thought, then he took in the smile and put on an injured look.

"I dunno whether I'm going to let you in or not," he growled.

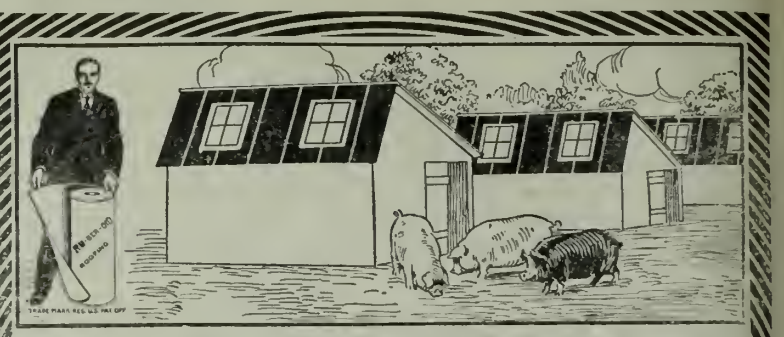
But he did at last, although he continued to look glum until Marian took him aside and whispered something in his ear. After that he beamed again. He fairly outdid himself in his trapeze performance, and felt fully repaid when he heard Miss Boston say with a chirp of delight, "Why, he's like a real showman!"

Then there was a trick dog, then other boys performed, and last of all a trick monkey brought down the house with his funny antics. Then followed a glorious romp in the barn, and a delicious lunch of apple turnovers and gingersnaps. "I never had such a good time in all my life before," said Dorothy, as she smoothed her tangled locks and donned the pink dress again.

"I never did, either," said Miss Boston. "That is the beautifullest dress I ever saw," she added. "I mean to ask my mother to buy me one just like it."

Dorothy smiled blissfully. Wise little Miss Boston! She knew how to draw the one wee thorn from Dor's





Better Hogs Mean Bigger Profits

A hog-house should be dry and comfortable. Leaky, draughty roofs breed discomfort and disease. Insure hog-health and hog-profits with a roof that is weatherproof and practically wear-proof. There are almost no repairs with rot-proof, fire-resisting

Pronounced "RU" as in RUBY
RU-BER-OID ROOFING
COSTS MORE - WEARS LONGER

Brick manufacturers use RU-BER-OID on kilns—in which the heat reaches 300° Fahrenheit. Heat from within and constant sparks from without do not injure RU-BER-OID.

Captain Scott used RU-BER-OID on his winter quarters near the South Pole. It kept his party dry and comfortable for two years at 56° below zero.

RU-BER-OID has been widely imitated. The U. S. Court of Appeals enjoined imitators from using the word "Rubberoid or any similar name as the trade name or brand" of their roofing. The genuine has the "Ru-ber-oid Man" (shown above) on every roll.

Colored RU-BER-OID (Ka-lor-oid) comes in beautiful, permanent Tile Red and Copper Green.

Barn Book Free

Building a Barn contains plans and suggestions which every farmer will value. This or other building books sent free. *Mail the coupon.*

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Also manufacturers of AMI-WUD Wall Board and RUB-ERINE Roof Paint.

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Send me samples of RU-BER-OID and the books opposite which I mark X. I intend to roof a_____

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FREE GUARANTEED SILVER PLATED TEA SPOON
With 5 Lbs. COFFEE $1.45 THE BEST YOU EVER TASTED

We give you the spoon in appreciation for your trade.

The coffee is the equal of grades selling at 35c to 40c per pound. The spoon is guaranteed, standard size, silver plated, New King George Pattern.

Start now to collect a complete set of spoons.

Other Specials

12 cans Pork and Beans	$ .85
12 cans Standard Tomatoes	.70
12 cans Carnation Milk	.82
12 cans Campbell's Soup	.89
12 cans Sliced Pineapple	.99
25 pounds Cane Sugar with $10 grocery orders	1.00

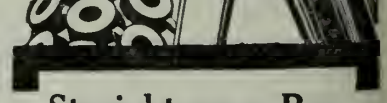
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Straight on a Bee-Line Across Continent and Back

That's the practical mileage assurance now guaranteed on all Pennsylvania Oil-proof

VACUUM CUP TIRES

—including Ford Size and all V.C.'s already in service.

Following the official endurance test of V.C.'s by The Automobile Club of America, in which the *certified average* of nine *strictly stock* casings was *6,760 miles*—

We developed and applied a new toughening process which adds 50% greater wear resistance to 1915 V.C.'s—

And increased the mileage guarantee to

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—per warranty tag attached to each casing.

Also guaranteed positively Oilproof and absolutely non-skid on wet or greasy pavements else—after reasonable trial—returnable at full purchase price. No other tires are so guaranteed.

Pensylvania Rubber Company
Jeannette, Pa.

NON SKID

Direct factory branches and service agencies throughout the United States and Canada

ppy afternoon.—Mary Marshall rks, in Sunday School Times.

CHOW CHOW.

One peck green tomatoes, ½ peck ring beans, 1 quart small write ions, ½ pint red peppers, 2 large eads cabbage, 4 tablespoonfuls hite mustard seeds, ½ pint horse-dish, 1 teaspoonful cloves, 1 tea-oonful allspice, 1 teaspoonful cin-amon, 2 pounds sugar, 3 heads of elery; chop the tomatoes and let and over night in brine that will ear an egg, then squeeze dry; chop abbage, onion and beans, chop to-natoes separately, mix with spices, ut in porcelain kettle, cover with inegar and boil 3 hours.

MUSTARD PICKLES.

One dozen cucumbers, 3 quarts of inegar, 2 pints of sugar, 2 dozen nions, 1 dozen peppers, 1 peck to-natoes, 1 pound white mustard seed, pound ground mustard, 1 ounce umeric powder; slice tomatoes and alt, let stand over night then drain. Heat sugar and vinegar then add to-natoes, onions, cucumbers, peppers nd mustard seed; boil till tender, hen stir in tumeric powder and the round mustard. Stir all the time ill thick. Seal in glass cans.

A BEAUTIFUL EUCALYPT.

At the Vallance Nursery in Oak-and is a ficifolia Eucalyptus tree, ow in full bloom, that is very beau-iful. The tree has been growing in ts present location for a decade or nore and is quite large. The blooms re very fine (almost feathery petals) olor a dark orange shade or per-haps can be described as between scarlet and brick red, and they look well when cut and used in a bouquet. More of these trees should be grown n California for their ornamental value alone.

WISE MO.

"Why," asks a Missouri paper, "does Missouri stand at the head in raising mules?"

"Because," says another paper, "that is the only safe place to stand." —Christian Register.

A certain poor woman had received some new underclothes from one who had helped the family. The woman's husband thanked the donor's husband, and a whole drama of humble ambitions might be built round his words. "Mary's mighty glad to have those clothes," he said. "She says now she'll have something to hang out on the line Mondays."—Boston Record.

Two boys were having an argument concerning their respective strength. "Why," said John, "I go to the well and pull up ninety gallons of water every morning." "That's nothing," replied Bob, "I get a boat every morning and pull up the river."

Two Irishmen arranged to fight a duel with pistols. One of them was distinctly stout, and raised an objection. "Bedad!" he said, "I'm twice as big a target as he is, so I ought to stand twice as far away from him as he is from me." 'Be aisy now," replied his second. "I'll soon put that right." Taking a piece of chalk from his pocket he drew lines down the stout man's coat, leaving a space between them. "Now," he said, turning to the other man, "fire away, ye spalpeen, and remember that any hits outside the chalk line don't count."

In Western Kansas a teacher in a primary grade was instructing her class in the composition of sentences, according to the Pittsburg Chronicle-Telegraph. After a talk of several minutes she wrote two sentences on the blackboard, one syntactically wrong and the other a misstatement of fact. The sentences were: "The hen has three legs" and "Who done it?"

"Willie," said the teacher to one of the youngsters, "go to the board and show where the fault lies in those two sentences."

Willie slowly approached the board, evidently studying hard on the tangle. Then to his teacher's consternation he took the crayon and wrote: "The hen never done it. God done it."

An American and a Scotsman were walking in the Highlands, and the Scot produced a famous echo. When the echo returned clearly after nearly four minutes, the proud native, turning to the Yankee, exclaimed, "There, mon, ye canna show anything like that in your country." "Oh, I don't know," said the American. "I guess we can better that. Why, in my camp in the Rockies, when I go to bed, I just lean out of my window and call out, 'Time to get up! Wake up!' and eight hours afterward the echo comes back and wakes me."—Bristol Times.

Fruit Puff Pudding.—Mix well in one pint of flour, two teaspoonfuls baking powder, and a little salt. Make into a soft batter with milk, Put into well-greased cups a spoonful of batter, then one of Loganberries or Mammonth blackberries, then another of batter; stew twenty minutes. Serve with liquid sauce.

The Pacific Guaranty & Mortgage Co. of San Francisco recently purchased 1000 acres in Oakdale, which will be converted into a dairy ranch with 400 cows.

Bean harvesting at Carpinteria has commenced.



Paints at $1.50 Gallon

—You can buy paints cheaper from us than any other dealer in the West. We buy in large quantities and sell for the lowest prices.

—Standard House and Floor Paints, $1.50 per gallon.

—Standard makes of Varnishes at 25% off regular prices.

Everything in Paints, Wall Tints, Brushes, etc., at big savings to you.

—Dutch Kalsomine 4½c per lb.
Black Graphite Roof—per gal... 50c
Standard Roof Paints—red, green, gray—per gal..... 85c
Shingle Stain, made from pure ground colors per gal..... 50c



$15 to $18 Front Doors $10 Veneered Oak with Plate Glass

—A typical value from our Sash and Door Dept., finest quality veneered oak doors with plate glass panels at top. Secured by special purchases recently and not mentioned in our catalog. All standard sizes and styles. Write for further details.

Screen Doors 25% Off

—New screen doors, the overstock of a famous door factory, made of best selected sugar pine in standard stock sizes. These doors can be duplicated in any first class yard at 25% to 40% more.

Style No. 8, $1.25

—This door usually sells for $1.65. Made of clear sugar pine and fitted with black screen wire, at our price..... $1.25

Style No. 9, $1.40

—Made of sugar pine, with three lower panels and fitted with galvanized screen wire. A door that will stand lots of use; our price..... $1.40

Odd Doors $1 and $1.25

—Inside doors of best sugar pine, 5 panel Colonial and 5 panel O. G., styles a big lot of them, in all sizes.

$30 Wallboard for $19

—The highest grade wallboard on the market; made of 3 layers of moisture-proof fibre, with asphaltum between each layer; or cream white fiber board.
—Cheaper and neater than plaster or lumber, and anyone can install it in one-quarter of the time.
Per 1000 square feet..... $19.00

"Standard" Roofing Paper

—A splendid quality of roofing paper that most firms would sell 20 to 40 per cent higher. Each roll complete with necessary cement, nails, etc., ready to lay.

1-ply, double-sanded, per roll of 108 square feet..... $1.15
2-ply, double-sanded, per roll of 108 square feet..... $1.40
3-ply, double-sanded, per roll of 108 square feet..... $1.65
1-ply, "King" smooth, per roll of 108 square feet..... $1.25
2-ply, "King" smooth, per roll of 108 square feet..... $1.50
3-ply, "King" smooth, per roll of 108 square feet..... $1.75

—Send for free sample. Remember we ship direct to you.

SHOVELS!—At Wholesale Cost—SHOVELS!

—You may go a life time before you get such an opportunity again. These shovels are in A-1 order but have been slightly smoked by fire while in transit.

—Every one in perfect working condition, all styles and sizes; note the prices:

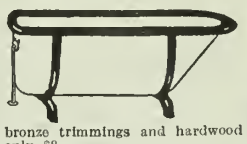
Long Handle, Round Point Shovels, per dozen..... $4.85 or 50c each
Long Handle, Square Point Shovels, per dozen..... $4.85 or 50c each
D Handle, Round Point Shovels, per dozen..... $4.15 or 50c each
D Handle, Square Point Shovels, per dozen..... $4.15 or 50c each
Long Handle Spades, per dozen..... $3.75 or 40c each
D Handle Spades, per dozen..... $3.75 or 40c each
Long Handle Scoops, per dozen..... $3.75 or 40c each
D Handle Scoops, per dozen..... $3.50 or 40c each

Dana Freezers at Half

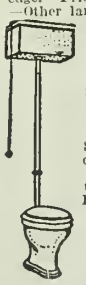
—A big lot of Dana freezers. Send in your order today. We've sold hundreds of them at these prices and have yet to hear a single complaint.

3-quart size, regular $2.25, now..... $1.00
4-quart size, regular $2.50, now..... $1.25

This Special Steel Enameled Bath Tub $8

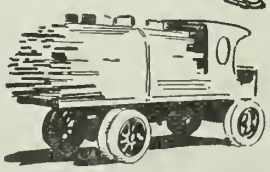


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—Other larger sizes at $8.50, $9 and $10.



Low Down Enamel Steel Toilet Combination.... $11.50
Complete to floor—wonderful value
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Sanger Adv. L.A.

The Markets.

Unless otherwise quoted f. o. b. San Francisco.

San Francisco, Sept. 8, 1915.

WHEAT.

Export business continues to drag, and domestic buyers are accordingly reluctant to take hold, which leaves the market in a decidedly weak position. Nearly all lines are about $1 per ton lower in this market. Whether there will be a stiffening later depends on foreign exchange and shipping conditions, which cannot be foreseen.

Sonora	$1.60@1.70
Cal. Club ctl.	1.55@1.65
Forty-fold	1.70@1.75
Northern Bluestem	1.75@1.85
Northern Club	1.55@1.65
Northern Red	1.55@1.75

BARLEY.

Both grades have dropped off a little this week, as buying for export is rather slow, and the new grain is coming in rapidly. Feed is in fair demand, but few large purchases are being closed.

Shipping	$1.25@1.30
Choice Feed, ctl.	1.15@1.20

OATS.

Seed oats are beginning to move a little, and quotations on black will probably be out next week.

Red Feed	$1.30@1.40
Red Seed	1.60@1.65
White	1.40@1.45

CORN.

With heavier offerings at shipping points, Eastern corn is a little lower. California yellow is almost entirely nominal, with practically nothing offered.

California Yellow	$1.80@1.85
Eastern Yellow	1.80@1.85
Milo Maize	1.75@1.80
Manchurian	1.40@1.60
Kaffir	1.80@1.85

BEANS.

The bean market is still uncertain, and prices are largely a matter of opinion, actual business being of no great volume. Horse beans have been marked down sharply. Most of the stock offered is wormy and cannot be shipped, and even good offerings will hardly bring the former figures. An unusually large proportion of other varieties is said to be turning out defective, though it is too early to say positively. Large and small whites have again been marked up quite sharply, as spot supplies are well cleaned up and there is a strong demand; and pinks are also higher. Limas, red kidney and Mexican red beans all show advance.

Bayos, per ctl.	$4.40@4.60
Blackeyes	3.50@4.00
Cranberry Beans	3.75@4.00
Horse Beans	1.50@2.25
Small Whites	4.60@4.85
Large Whites	4.50@4.75
Pink	3.75@4.00
Limas	4.85@5.00
Red Kidney	6.00@6.25
Mexican Reds	5.25@5.75

SEEDS.

The season of active demand has not started, though there is a little more business.

(Wholesale Prices, San Francisco.)

Alfalfa	17 @18 c
Brown Mustard, per lb.	Nominal
Canary	9 @10 c
Hemp	3 @ 3½c
Millet	2½ @ 3 c
Timothy	7½ @ 8 c

HAY.

Arrivals are exceptionally heavy at present, and the market is extremely active, all offerings in San Francisco moving off without difficulty, and even bringing advanced prices for the better grades, which are in especially strong demand. Consumers in all the larger towns around the Bay, in fact, are laying in large stocks of both grain and alfalfa hay, as they are coming to appreciate the fact that, with the export movement that has already taken place, supplies are going to be short. Moreover, there is still a good deal of export inquiry. The fields are rapidly cleaning up.

(On track, San Francisco.)

No. 1 Wheat, per ton	$12.00@13.50
do No. 2	8.50@10.50
Tame Oats	9.00@13.50
Wild Oats	7.00@10.00
Alfalfa	8.00@11.00
Stock Hay	5.00@ 6.00
Straw, per bale	.25@ .40

FEEDSTUFFS.

Most lines are moving in about the normal way, with little buying except for nearby requirements. Cracked corn and rolled barley and oats are all easier.

(Wholesale prices per ton, carload lots, San Francisco.)

Beet Pulp, per ton	$20.00@21.00
Alfalfa Meal, ton	16.00@19.00
Alfalfa Molasses Meal per ton	19.00@20.00
Bran, per ton	27.00@28.00
Oilcake Meal	38.00@39.00
Cocoanut Cake or Meal	23.00@25.00
Cracked Corn	40.00@41.00
Middlings	35.00@37.00
Rolled Barley	25.50@26.50
Rolled Oats	30.00@32.00

VEGETABLES.

The week opened after the holiday with a very heavy movement, and while supplies of most varieties have been coming forward liberally, the market in general is rather firmer. Tomatoes show an advance, notwithstanding the heavy arrivals from the Delta and Bay districts. String and lima beans show better quality, and are firmer at the inside figure. Cucumbers show a little more firmness, and the best bell peppers have been marked up sharply.

(Wholesale prices, San Francisco.)

String Beans	2 @ 3 c
Lima Beans	4 @ 5 c
Peppers, bell, box	30 @50 c
Tomatoes, lug	30 @70 c
Cucumbers, lug	20 @30 c
Summer Squash, lug	20 @35 c
Green Corn, sack	.75@1.25
Okra, lug	50 @75 c

POTATOES AND ONIONS.

Prices in this line are decidedly easy, with heavy supplies on which a moderate shipping movement makes little impression. Salinas potatoes are easier, with larger arrivals. Garlic has been marked down, and both potatoes and onions from the Delta are easy.

Salinas Burbanks	$1.25@1.50
Delta Burbanks	60 @90 c
Sweet Potatoes, ctl	$1.75@2.00
Onions, ctl.	50 @55 c
Garlic, per lb., new	4 @ 5 c

POULTRY.

Some changes are noted in classification of turkeys and broilers. Otherwise prices remain about as before, with rather less activity than was expected for this week.

Turkeys, old, lb.	17 @19 c
do, young	25 @27 c
Broilers, 15 lbs. to doz. and less, lb.	27 @30 c
do, over 15 lbs to doz	22 @24 c
Fryers	21 @22 c
Hens, extra, per lb	15 @16 c
Small Hens, per lb	13 @14 c
Smooth Young Roosters per lb.	21 @22 c
Squabs, per doz.	$2.00@3.50
Geese, per pair	2.00@2.50
Ducks, young, lb	13 @14 c
Old	12 @13 c
Belgian Hares	8 @ 9 c

BUTTER.

Extras show no change whatever, standing the same as for several weeks past. Prime Firsts dropped 1c. but have recovered in part; while firsts have recovered from last week's drop.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	28	28	28	—	28	28
Prime Firsts	25	25	25	—	25½	25½
Firsts	24	24	24	—	24	25

EGGS.

The effects of the advancing season are seen in decreased arrivals from nearby points, as supplies on hand after the holiday were light, and active buying since has sent extras up 6c.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	30½	30½	31	—	33½	36
Sel. Pul.	26	26	26½	—	28	31

CHEESE.

The demand for cheese has been rather slow so far this week, and Y. A.'s are ½c. lower. Monterey cheese has also dropped.

Y. A.'s, fancy	14 c
Fancy Calif. flats, per lb.	11 c
Calif. Cheddar flat, per lb.	11½c
Monterey Cheese	13 @14 c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	30	30	31	31	31	31
Cheese	12	12	12	12	12	12

DECIDUOUS FRUITS.

The market was well cleaned up after the holiday, and with an active demand values in general are pretty well maintained, though arrivals are still heavy in many lines. Strawberries and blackberries have advanced rather sharply. Prunes are held at good prices, and choice plums are a little firmer. Figs have dropped, but blacks are doing better than whites. Good Bartlett pears find quite an active demand, and prices are well maintained. Offerings of peaches are decreasing, and good fruit in small boxes brings much better values. Gravenstein apples are easier, but in general the apple market is fairly steady. Casabas and watermelons are easier. Seedless and tokay grapes are doing better.

Huckleberries, lb	5 @ 9 c
Strawberries, chest	2.00@4.00
Blackberries, chest	3.00@4.00
Plums, crate	50 @85 c
Prunes	.90@1.00
Figs, bx., double layer	40 @75c
Nectarines, crate	50 @75 c
Pears, Bartlett, bx	1.00@1.35
Peaches, small box	50 @75 c
Lugs	65 @75 c
Apples, Grav.	.70@1.10
Alexander, 4-tier	.75@1.00
Belleflowers	.75@1.00
Crabapples, bx	40 @50 c
Persian cantaloupes, doz	1.00@2.00
Cantaloupes, crate	.75@1.00
Watermelons, doz	1.00@2.50
Grapes, crate, Thompson Seedless	75 @85 c
Malaga	60 @75 c
Tokay	$1.00@1.25
Muscats	60 @75 c
Black	40 @65 c

DRIED FRUITS.

The dried fruit situation continues to gain strength slowly, and some further advances are noted this week. The eastern distributive trade seems to be taking hold in better shape, while some packers are compelled to buy to take care of contracts, all of which tends to strengthen values. One of the most interesting features is an advance in the offer for peaches, which are now quoted up to 3½c. Growers are showing a disposition to hold firmly, and while sales are not heavy the market is in better shape. Apricots also have been marked up again, though only fancy stock in favorable location would bring the top figure. However, the amount available at the former easy prices is very limited, and stock of all kinds is getting scarce. White figs have again been marked up, owing to the scarcity of imported stock. Local packers have made no change in their offer for prunes, though growers in some of the leading districts are holding firmly for a further advance. The future will depend



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reatly on foreign demand, as to hich one man's guess is about as ood as another's; but the domestic rade is disposed to buy the goods nly as needed, following about the ame policy as last year. The New ork Journal of Commerce says:

"The dominating tone in the futre prune market appears to be tronger. Though buying from all uarters continues to be extremely ght, there was a firmer feeling in vidence. Conditions in the Apricot narket are being held on a very firm asis, but the prevailing tone apears to be dull. It said here that the uropean buying, which has aided he apricot market, has practically eased and that operators do not exect to dispose of many more stocks or the foreign trade. According to he opinion of one very well posted perator in the New York market the uropean demand from now on will all for prunes of the 1915 pack instead of apricots. Sellers are still offering natural Thompson seedless nd Sultana Raisins for November nd December shipments at 6¼c. for he latter and 6¾c. for the former."

(Prices to Growers.)

1915 crop	
Apples	5¾ @6½c
Apricots, per lb	7 @9 c
Figs, white	4 @4½c
Black	2¼ @3 c
Calimyrna	5½ @6 c
Prunes	3⅜ @3¾c
Peaches	3 @3½c
Pears	5 @8 c
Raisins (in sweatbox):	
Loose Muscatels	4 @4½c
Seedless Sultanas	6 @6½c
Thompson Seedless	6 @6½c

CITRUS FRUITS.

The local movement has been hardly as heavy for the last week as for some time previous, and values are a little easier. Oranges will hardly bring over $4.25, while fancy lemons have been marked down sharply.

(Wholesale prices, San Francisco.)

Oranges, Valencias, bx.	$3.50@4.25
Grapefruit, seedless, bx.	2.50@3.00
Fancy	3.00@3.50
Lemons, box	1.50@2.75

NUTS.

It is said that local almond associations have signed up a lot of additional acreage, and comparatively little stock is offered from outside sources. A good sized sale was reported last week at the prices below. Official Exchange prices are expected in another week.

(Prices f. o. b. San Francisco.)

Almonds, 1915 crop:	
Nonpareil	14¾c
IXL	12⅝c
Ne Plus Ultra	11¾c
Drakes	10⅛c
Languedocs	11 @11½c
Walnuts:	
Jumbo, lb	19 c
No. 1 Softshell	16½c
Budded	18 c
Ungraded	8 @10 c
Manchurian	11 c

HONEY.

Stocks continue to accumulate here, as the shipping movement is limited, and a good deal is coming in all the time.

Water White, comb	11 @12½c
Amber	9 @11 c
Water White, extracted	6 @7 c
Light Amber	3 @4 c
Dark	2½ @3 c

LIVE STOCK.

Current arrivals are just about balancing trade requirements in all lines, and no change whatever in values has been made this week. Hogs continue to come in freely, but are well taken at present prices.

(Prices at San Francisco.)

Steers, No. 1	6¼ @6½c
No. 2	6 @6¼c
Cows and Heifers, No. 1	5½ @5¾c
No. 2	5¼ @5½c
Bulls and stags	4 @5 c
Calves: light	8 @8½c
Medium	7½c
Heavy	6 @7 c
Hogs, Grain-fed:	
200 to 300 lbs	6¾c
100 to 200 lbs.	7¼c
Prime Wethers	6 @6¼c
Ewes	4¾ @5 c
Suckling lambs	7 @7½c

WOOL.

The fall clip is starting in some places, and dealers are quoting the prices appearing below for fall wool, though hardly enough business has been done yet to establish values.

Spring clip:	
Humboldt & Mendocino	18@27c
Sacramento Valley, lb	18@22c
Southern, year's staple	15@18c
Six months	14@16c
Fall clip:	
San Joaquin	8@10c
Northern	10@14c

HORSES.

A lot of horses used in the local mail service are being auctioned here this week, but little desirable stock is coming in from the country and there is nothing to indicate that larger shipments of horses would find a market here.

(Approximate values at San Francisco, based on auction sales.)

Heavy drafters, 1700 lbs. and up	$275@300
Light drafters, 1550 to 1650 lbs.	200@225
Chunks, 1350 to 1500 lbs.	165@185
Wagon horses, 1050 to 1350 lbs	125@150
Green Mountain range horses, 950 to 1200 lbs	50@ 90
Farm workers	60@ 75

MULES.

1200 lbs and up	200@225
1100 lbs	175@200
1000 lbs	140@160
900 lbs	90@150

SPECIAL DECIDUOUS MARKET REPORT.
By J. L. Nagle.

Sacramento, Cal., Sept. 6, 1915.

Since our last letter California has experienced the hottest spell for this time of the year that we have had for several seasons. In the lower San Joaquin district the temperature averaged for four or five days 105, and in none of the fruit sections was it lower than 100. This unseasonable weather has done more damage to the Grapes, consequently the crop of Tokays and Malagas will be lighter than originally estimated.

There is nothing left for shipment in the line of freestone peaches, with the exception of Salways and a large portion of this crop will go to the canners. Probably 100 to 150 cars of clingstone peaches will be marketed at a price that will net the grower on a basis of $10 to $12 a ton. This is equal to, and if anything better than the canners are offering.

Mountain Bartletts will all have been shipped by the latter part of next week and those that are now arriving in the East are bringing satisfactory prices.

We do not anticipate that the total shipments of Grapes will exceed 5,000 cars, against 8,300 last season.

The following prices have ruled for the week:

New York.—Bartlett Pears, averaged $1.97; Malaga Grapes, $1.50; Tokay, $1.90; Cornichon, $1.75; Duke Plums, 80c.; Gross, 95c.; Hungarian, 90c.; Orange Clg. Peaches, 60c.; McDevitt, 70c.; Elberta, 60c.

Chicago.—Bartlett Pears, averaged $1.85; Giant Plums, 87c; Duke, 89c.; Malaga Grapes, $1.15; Tokay, $1.50; Phillip Clg. Peaches, 55c.; McDevitt, 66c.

Total shipments to Sept. 7, 8155 cars. Total shipments same date 1914, 9219 cars.

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Publisher's Dep't.

While we have not yet received a complete copy of the new "California Hog Book," we have seen parts of it, and expect to have a lot of them on hand by the time this reaches our readers. We would urge everyone interested in swine to send for a copy at once. It is more than worth the price, $2 postpaid.

An announcement has been made by the Luitwieler Pumping Engine Company of Los Angeles, stating that Luitwieler Pumps were given the highest awards at both the San Francisco and San Diego Expositions, taking first prize in competition with many other well known pumps. Two prizes were given by each Exposition, for the Luitwieler deep well pump and the Triplex high duty pressure pump. Owing to the great number of ranchers planning to install pumping plants this fall, this Los Angeles concern has ordered a new supply of its irrigation booklet which describes the different pumps that were awarded prizes at the Expositions. Copies of the booklet will be sent to ranchers free of charge.

Almond Growers!

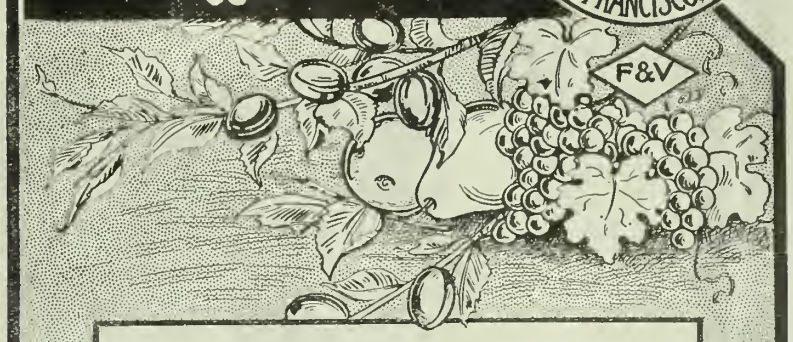
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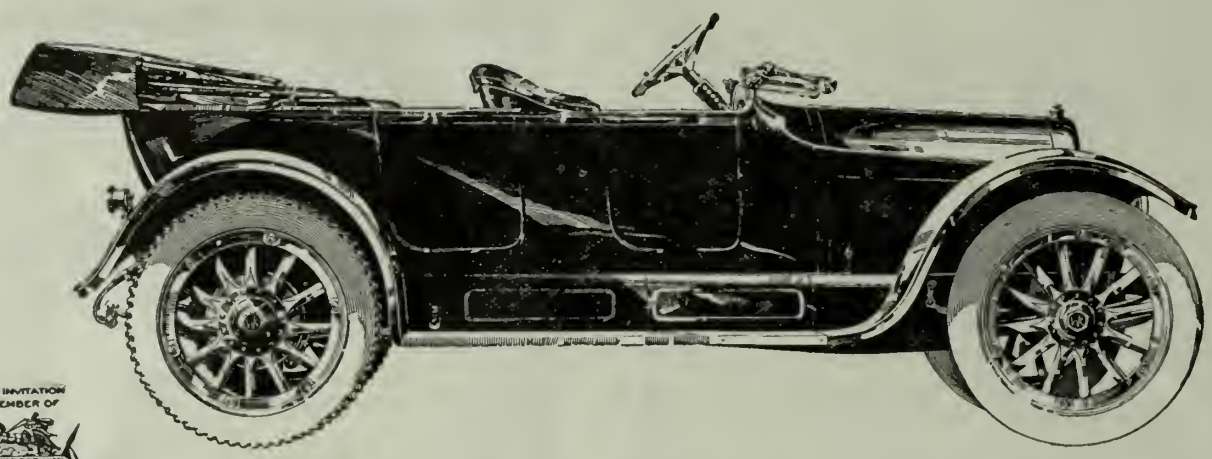
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Vol. XC—No. 12 Forty-Fifth Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO SEPTEMBER 18, 1915. LOS ANGELES

California State Library

Horse and Colt Show at Rio Vista.

Surely the world is moving when the University holds a horse show. The Supervisors and the people pay for it and count the money well spent. Why not do it in many other places?

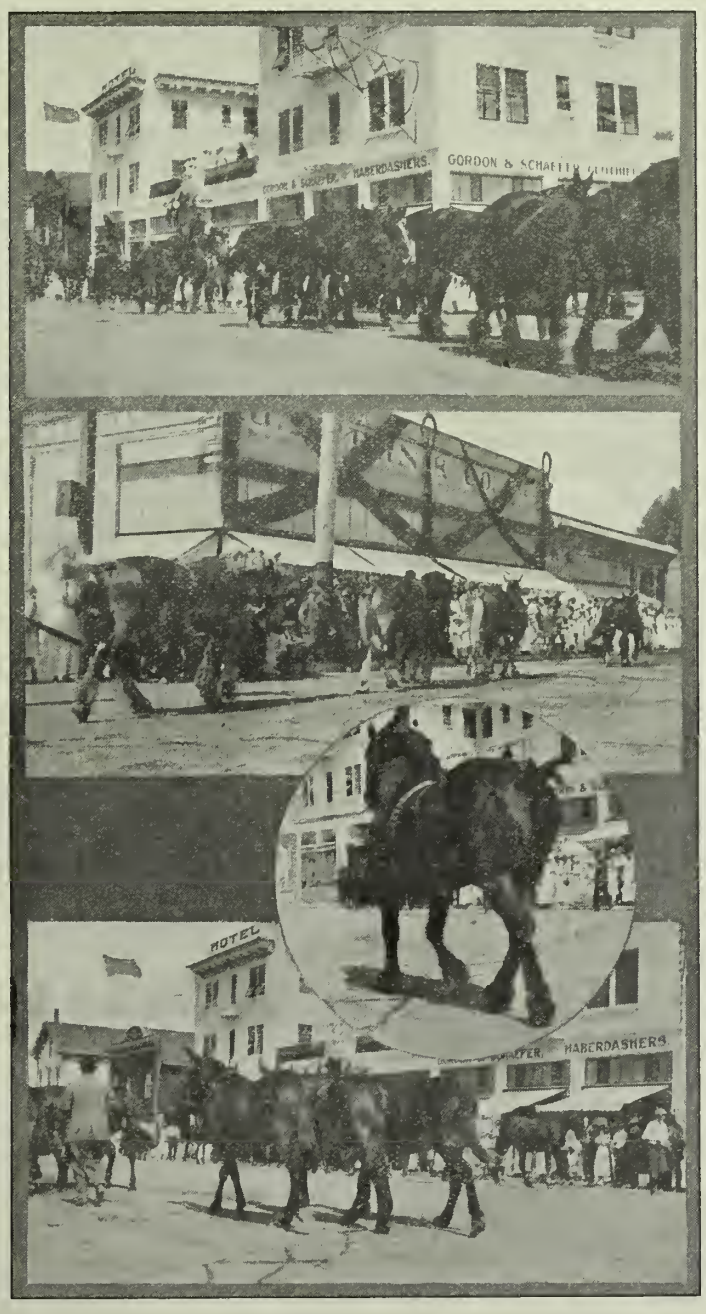
[Written for Pacific Rural Press.]

OUR first county colt show—that was what we journeyed over to Rio Vista to see on Admission Day, as did hundreds of others. When we entered the outskirts of the town, we discovered that this wasn't merely a little cracker-box kind of a show, for the first thing that greeted our eyes was horses; and from that time on we saw horses all day. Not the fast-stepping kind that were so familiar on special holidays a few years back, but the big, heavy kind that we talk of so much, but see so seldom. In fact, our colt show had materialized into a great, big horse and colt show combined.

Soon after arrival, we, with some 1500 other interested spectators, watched with admiration the parade. And what a parade! Not the kind we have all been used to seeing, it is true. Ordinarily, we see horses in the parades drawing muchly decorated floats containing muchly decorated citizens, but this was a "horse day," and the men in charge rightly assumed that the horse and not the citizen should be featured.

And this featuring was no small work of equine art, for there were over 120 head of horses and mules, some showing the work of much grooming, others less, and still others that showed unmistakable signs of hard work the day before.

A far greater achievement than the grooming was the size and quality of the animals participating. Nobody who viewed that parade was expecting to see the ordinary horse show frills. Rather, they had come to see just what they did see: a parade composed of draft horses in their workday clothes, fresh from the farm, but in much larger numbers than the most sanguine booster of the day previously had hoped for.



Scenes taken of the big horse parade at Rio Vista, when 120 head of horses and mules were in line. The farmers of that locality have for years been breeding good stock, until now it is one of the big horse centers.

Now parades, as we soon discovered, are not the whole show at this kind of gathering. They are nice to look at, but there were bigger things back of this show than looks. Good-natured rivalry, together with a desire for knowledge, had brought these farmers and their horses together; not bands, decorations, and bright lights. And so it was that after a short address by Dr. David P. Barrows, of the University of California, which in ...ion, through its Farm Adviser, had fathered the show, the real business of the day started: that of picking the best horse out of each of the many classes provided.

Purebreds were judged first, Shires, Percherons and Belgians being represented, with Shires having a big lead in numbers, with Percherons second. Then came the mule and jack classes, with 14 animals in all classes—not so largely represented as the horse, perhaps, but fully as well in some classes, showing that the mule is considered an important factor in farm operations in the Rio Vista country.

But for real intense competition, the kind that seemed to be the backbone of the whole show, the judging of the grade mares, geldings, and foals, proved most interesting.

Apparently every exhibitor considered his mare the best one, for there were 14 mares in the Best Grade Mare class, all of which weighed over 1600 pounds. It is needless to say that such a collection of mares could not be made in any but a country where draft horse breeding is continuously followed. Perhaps the brood mares in this show were the most remarkable feature both for size and quality. Seldom does one see their equal, and as one horse raiser remarked, "We have good horses in our country, but nothing that can touch these mares, and you can't get big drafters unless you have good mares."

Again, in the mare and foal class was one taught an object lesson in regard to the importance of the brood mare. Of the 10 entries in this class, all were big strong foals; the kind that grow into big work-horses at an early age.

And so it went from class to class, each one naturally bringing out a winner and putting a hundred resolutions into the loser's head to raise a better one next year. And, incidentally, it might be mentioned that not only was the exhibitor making mental resolutions, but also the spectator who had left his horses at home.

Much interest naturally centered on grand championships, of particular interest in this respect being the grand champion foal irrespective of breeding, which carried with it the silver medal awarded by the California Draft Horse Breeders' Association, as well as an opportunity to compete for the State championship at Sacramento

(Continued on page 277.)

PACIFIC RURAL PRESS

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California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at 5 p. m., September 14, 1915.

STATIONS	Rainfall Data: Past Week	Rainfall Data: Seasonal To Date	Rainfall Data: Normal To Date	Temperature Data: Max'm	Temperature Data: Min'm
Eureka	.02	.28	.57	62	48
Red Bluff	0	T	.16	84	54
Sacramento	0	.01	.11	92	52
San Francisco	0	.01	.01	74	56
San Jose	0	.04	.11	84	46
Fresno	0	T	0	96	52
Independence	0	.04	0	90	42
San Luis Obispo	0	.01	.08	76	50
Los Angeles	0	0	0	82	56
San Diego	0	T	0	72	60

THE WEEK

Multitudes from all American countries, and more than we might expect from the other hemisphere, considering the acute troubles on that side of the world, are enjoying with us these delicious September days. Last week the Exposition had two days which will stand high in the attendance-records of the year. Labor Day and Admission Day drew throngs almost beyond anticipation and their unique events filled the popular heart with joy. It is an interesting fact, however, that so many Californians are now realizing that the Exposition is a great educational opportunity and something more than an abode of delight—which they have been disposed to regard it while the vast throngs of midsummer visitors from the east were in possession of it. Then, Californians were busy showing friends from a distance, during their short sojourns, the grand spectacular and pictorial phases of the wonderful creation of architects, artists and gardeners. Now Californians are realizing the importance of leisurely studies, not only of the grandly attractive features, but of the detail of art and industry which the palaces contain in such unprecedented volume and variety. Everywhere one hears remarks of realization that the vacation season is over and that the Exposition, as a great school for the education of mankind, has opened in the minds of the people. This is a most fortunate, popular conviction. Probably the greatest permanent good, in the promotion of knowledge and thought of great and good things among Californians, and the effects of such realizations in the upbuilding of the State, is to be secured by the autumn studies which our people are providing for by frequent and prolonged visitations. Each one should seize the opportunity to the extent of his conditions and requirements.

California Starts a New Question.

California is enjoying this week a most unique session of the International Irrigation Congress, in that it is of nine days' duration and includes special assemblies at four different points in the State: Stockton, Fresno, Sacramento and San Francisco—at the Exposition on September 20 and 21—the latter being "Rural Credits Day." The California conventions will be most notable during the 22 years of the life of the Congress in the extent and definiteness of its effort for fair financing of irrigation development, from the point of view of the irrigator himself. In the past, full attention was given by the Congress to national financing of irrigation development as a whole: now it is more a question of financing the settler so he can get upon the land and stay there. California is leading in systematic State promotion of rational and successful colonization on idle lands—not public lands necessarily, but the subdivision and occupation of idle lands covered by private ownership in large tracts. The California Legislature last winter prepared to give the people a chance to change the constitution so that State credit could be used, if necessary, in such colonization enterprises, and a vote will be taken on that amendment on October 26. In accordance with another provision by the last Legislature Governor Johnson has appointed four of the five contemplated by the law, viz.: Col. Harris Weinstock, Doctors D. P. Barrows and Elwood Mead, and Senator Matthews, as a committee to devise a plan for subdivision and colonization of lands by State enterprise, which can be presented to the next legislature. All matters involved in such a State movement were brought before the Irrigation Congress and will now become a subject of nation-wide discussion on the basis of California's leadership.

The meetings at the Exposition on September 20 and 21, both afternoon and evening of the latter day, should be attended by all who have regard for rural credits questions, from any point of view. The proceedings will have to do with both the colonization-development propositions and with short-term credit for producing and marketing purposes.

Facts Which Do Not Fit.

Upon another page of this issue may be found a communication from Dr. A. J. Cook, State Commissioner of Horticulture, which we hope everyone will read carefully. Dr. Cook is very anxious that our readers should have the facts in the case and not be misled by the slanders which we supply them—according to the information which some great and good friend gives him. The saddest thing about the interesting facts which Dr. Cook presents in his letter, is that they do not fit the case. If he had found time to read our paragraph before replying to it, he would have noticed that we did not say anything about the aggregate attendance. What we did say was this: "The sad scarcity of fruit growers is only what might have been expected," etc. It was a "Fruit Grawers' Convention," and yet the attendance consisted of almost wholly academic, official and dilettante persons. We do not desire to deny entertainment to such persons, but they are not "fruit growers" and cannot be counted as such. Nor are they likely to burden themselves with transactions which are now most essential to the prosperity of men who are growing fruit.

Another thing which Dr. Cook might have noticed, if he had read the paragraph before answering it, is that our chief objection to his lay-out for a Fruit Growers' Convention consists in its likeness to a Farmers' Institute—which is a teaching affair as it ought to be, for it is a University exercise. We claimed that his conventions departed from the earlier, and most valuable character of Fruit Growers' Conventions, and were duplicating the institute and short-course work which belongs to the University. In his reply, Dr. Cook not only admits this, but argues in favor of this kind of meeting, and he should not have arraigned us for not giving the facts. Our facts were right: his facts do not fit.

"Institutes" and "Conventions."

Our claim is that the better Dr. Cook's meetings are as "institutes" the worse they are as "conventions," which have rendered most value as fruit-growers' executive assemblies. This is the character which has practically been lost sight of. That Dr. Cook does not at all apprehend the nature of our objection, appears in his effort to show that three-fifths of the addresses at the Stanford convention were from the "practical side" and two-fifths from the "academic"; but if one cares to examine the program he will find that the subjects assigned even to the "practical" speakers were encyclopedic, descriptive and academic, and did not attack live issues in our current fruit-growing experience, except in an incidental way. This is, of course, not so great a sin as the closing of the opportunity for business-like conference between growers, which is the direct result of his lay-out. He programs the meetings so full of those who have either the standing or the style of academic spell-binders that they resist even the dynamite of current necessities.

The California fruit-growers nearly thirty-five years ago instituted a method of instant and concentrated movement in the solution of their problems by appeal to popular assemblies, known as "Fruit Growers' Conventions." They were unique in their character and most effective in their work and nearly, if not quite, all of the great successes of the growers' organizations in regulating production, protection, transportation and distribution have followed from the initiative at these great conventions. No other agency or institution compares with them in work done for the promotion of the fruit industry and the prosperity of producers. They set up no qualifications nor requirements of membership; they had no constitution nor by-laws. Their rallying cry was: "Let's get together and do something," and the growers did get together and did things. In recent practice the particular force of these great, unique, characteristically Californian and democratic assemblies has been well-nigh frittered away.

What Is Executive Horticulture?

When Dr. Cook began as State Commissioner of Horticulture nearly four years ago, he seemed to be impressed with an idea that his duty was to duplicate or displace the College of Agriculture, both in teaching and research—just as he had previously discounted local investigators by referring to distant agencies appeals which should have been made to our own investigators and institutions—apparently always preferring the former. When he assumed the commissionership he started out to realize these mistaken notions; and though he has been shaken loose from many of his old tenets he still fails to grasp the fundamental character of his office in the executive work of the State, which is to understand and execute

the laws, which the Legislature has provided, for the promotion of the great industry of the State which those laws contemplate. We do not mean, of course, that the State Commissioner should confine himself to the letter of the laws in which he is specifically mentioned—such as the protection from pests, etc.—but the laws which aim to embody the spirit of State-help to the fruit interests.

There is every reason to believe that the incumbent administration desires to do something for the promotion of State business in production. The Governor has said so, and the people believe he means it. He has said, if we remember correctly, that the producer is not getting what belongs to him from the selling price of his products. He has approved a law the design of which is to show what the State can do to help the producer get what he earns. What is the attitude of the producers toward State help in marketing? Not less than a whole day should have been given at the Stanford convention to discussion, which would have helped producers to understand each other and to know what all are willing to stand for. To that end representatives of all co-operative marketing associations should have been summoned; and, if they had been, there would have been a discussion which even our old friend, Eben Boalt, would have had no difficulty in understanding. We do not know whether the new marketing law will go up or down, but we do know that as a new phase of State legislation, looking toward a square deal for producers, it should have been the main issue at the Stanford convention, and it should not have been passed in silence by the horticultural branch of a State government, which is willing to face even the failure of a new idea in government for the purpose of demonstrating what really can be done to secure producers their share of prosperity.

Another Executive Instance.

Another matter to which the State administration has strongly committed itself is the proper provision of rural credit. Every branch of the executive outfit of the State should endeavor to realize the Governor's desires in this regard, and there are popular votes approaching on preparations for rural credit machinery. Dr. Cook did wisely in getting Col. Weinstock to set forth fundamental principles at two earlier conventions, if we remember correctly, but he stopped there, and when definite ideas and methods for local realization of what Col. Weinstock advocated are pending, there is nothing doing at the great assemblies which the horticultural commissioner has the power to convoke and which could make telling declarations on the subject. The result is that, instead of being called together to act upon a leading executive policy of the State, the fruit interests are now trying to get themselves together on that important matter. If we are correct, the executive branches of the government are constituted for the purpose of arriving at and realizing beneficent purposes. Dr. Cook's idea of working his branch of the executive works seems to be to elucidate, eliminate and evaporate—which it not a good executive way.

The specific instances, which we cite, of executive referendum to fruit growers are only two of many, but they illustrate our conception of the work which needs to be done. California fruit industries are now only at the beginning of their development. The legislature, from time to time, has provided ways and means by which the executive branch of the State government may exert powerful influence in promotion and protection of these industries and may always keep in close touch with the men and organizations whose function it is to do things. It does not mean leadership by apron-strings. It means leadership by business spirit, knowledge and force. When the Governor of California can feel his connection with these greatest industries of the State, through leadership of this character, he will be officially informed of what fruit growers desire and what their industries need.

Relations of Riot to Fruit Growing.

Another executive subject upon which the Stanford convention was silent, so far as we have heard, is the riot and destruction being waged upon fruit properties this summer by those who respect neither owners' interests nor the rules of the labor organizations. The convention should have probed this movement to the bottom and demanded law and order. It is fortunate that Governor Johnson has been able to reach the bottom of it without the horticultural contact which the law provides in the Fruit Growers' Conventions; for in a formal statement, issued September 21, he declares the Industrial Workers of the World to be doing these things: they preach, in the name of Ford and Suhr, violence, sabotage and arson. They demand the destruction of the farming and fruit industries of California; they are instructing by word of mouth and otherwise how best haystacks and barns and buildings of industry may be burned, and how fruit trees and vines may be killed. If such things had been going on twenty years ago the fruit growers' assembly would have hastened to offer the governor its support in denouncing them. Fortunately, however, the governor has had his own eyes on the situation, and now declares: "So long as, in behalf of these men, the threats of injury and sabotage continue, so long as the preachment exists in their behalf in the State of California, so long as incendiarism is attempted, I will neither listen to appeals for executive clemency, in behalf of Ford and Suhr, nor in any fashion consider the shortening of their terms of imprisonment."

As such inhuman practices are thus seen to be hopeless of reaching their intended results, their advocates must adopt some more rational and lawful methods.

Queries and Replies.

Querists must give name and address

Unanswerable Alfalfa and Corn.

To the Editor: How long after cutting alfalfa should it be raked into windrows; and how long should it stay in the windrows before putting into cocks? When in cocks, how long should it remain? Should alfalfa be stacked the same as hay before hauling into the barn? I have some field corn now growing, and some advise me to cut off the tops and others say do not.—R. A. C., Hayward.

We are sorry that these questions are broadly unanswerable. Correct practice with alfalfa in one place would be wrong in another; also a method might be both right and wrong in the same place at different times of the year. Sometimes the hay can go right from the windrow to the barn, but it is generally cocked and seldom stacked before going in. There is no rule and can be none. A beginner should seek the advice of an experienced neighbor who can see if the cutting is ready or not, and should begin right there to educate his own judgment. As for topping corn, 20 experiments at the stations showed that in 7 cases it hurt the corn, in 8 cases it helped it, and in 5 cases it made no difference. No wonder your advisers disagree.

Alfalfa Tonics.

To the Editor: I have some alfalfa that is not doing well. The stand is good, but it makes a poor growth. I will disc it this fall and put on barnyard manure. I would like to use gypsum. Please tell me how to do it. Would you mix with manure and spread broadcast before disking? Also, how much per acre? The soil is moderately deep, and I think does not contain alkali.—R. M., Roseville.

We should spread the manure and disk this fall after the last cutting, as you propose. The gypsum can be best applied in the spring when the growth is starting and still more rain is to come. You can use 300 lbs. per acre, broadcasting it over the surface. For a small field a small fire shovel makes a good throwing implement for one hand. The first following rain will take care of it.

A Seedless Fig.

To the Editor: I am sending you a seedless fig. We find this fig superior in many ways to any other fig that we have seen. For jams and preserves they are far ahead of any other fig. The tree is a heavy bearer. The fruit is not subject to decay on tree and is not bothered with bugs. For candied figs they excel all others. I would like your opinion of them.—W. F. Bolinger, Redlands.

These figs are of roundish form, light yellow, medium size, and apparently thin and tender skinned. One of the specimens is practically devoid of cavity—it being reduced to a thin slit. The interior of the fig is therefore packed full of pulp of light yellow color, and evidently well suited for the preserving processes which Mr. Bolinger specifies. A very few empty seeds are found in the pulp, but the fruit is relatively as seedless as the navel orange, perhaps—so few seeds that they are negligible. Another specimen, on cutting, shows more vestiges of a normal cavity, but the prevailing form is probably the former, which it is fair to call either a solid fig or a seedless fig, as the grower chooses.

Lemon Insects.

To the Editor: I have some young lemon trees and some of the leaves turn brown and curl. Upon looking closer I have found insects about one-fourth of an inch long, which look exactly like small brown caterpillars. There are large numbers on some leaves. Can you inform me as to what to do?—A. J., Soquel.

If the insects are only on the leaves which curl, the cheapest method would be to pick off and crush all such leaves. If they are scattered you should spray with arsenate of lead just as you do for the apple worm—being sure, of course, that you are dealing with caterpillars. If they are more like leaf lice, you should spray the trees with a soap or tobacco wash.

Barley on Salt Marsh.

To the Editor: Can I sow barley on marsh land which has considerable salt grass on it, and in winter it lies under tide water for about one month?—E. J. B., Vallejo.

You can only tell by trying a little patch on it—sowing late in the spring. Usually such land has to be leveed, with gates to exclude tide water and let out rain water, which carries the salt with it.

Peach Growers Organizing.

A million-dollar organization of dried peach growers on lines almost identical with the plan of the Associated Raisin Co. is well under way, and the greatest eastern distributors are tumbling over themselves for a chance to handle the peaches.

[Written for Pacific Rural Press.]

Dried peach growers are stranded high and dry, and there is a great thirst for information bow to get living prices; but a cloud "as big as a man's hand" has risen above the borizon and is rapidly gathering size and force. Meeting after meeting of peach growers is being held in the San Joaquin valley and the storm is about to break that will sweep away the present system of everybody trying to sell to the packers in a month what it has taken a year to produce. The packers, knowing that the feverish rush is coming, sell peaches that they don't own before the trees bloom, and then hold prices low as possible. The packers aren't to blame for taking advantage of the system; but if the peach growers hang back to "let George" take advantage of the present opoprtunity to do away with that system, the system will continue and the peach trees will come out.

As we have traveled up and down the Sacramento and San Joaquin valleys, it has been almost with indignation as well as grief that we have seen the heartless neglect of peach orchards and the crops on them. Growers did not thin the fruit and it opened the centers of tbe trees to sunburn—it broke down great branches, opening jagged wounds for decay to strike at the trunks and roots. Fruit has rotted on tbe ground by the orchardful; more thrifty growers have fed it to swine; others have already laid the tractor to the root of the tree and burned botb tree and crop. There are 5897 peach growers with 55,000 acres in 40 townships of the central San Joaquin valley alone, who are in the same straits.

Three cents is the highest sale that has come to our notice, and the usual hammering down has already occurred to stampede the growers into the arms of the packers.

But the end is in sight.

A peach growers' committee was recently appointed in Fresno to find a market for the "terrible" carryover before the new crop should come on. One hundred tons was all it could discover and very little was in the hands of the growers. Tbe packers had sold short and wanted to scare the growers into selling early at packers' prices to cover their shortage. A meeting of peach growers was thereupon called Aug. 20 in the Fresno Chamber of Commerce. It appointed a committee of five who called another and larger mass meeting for Aug. 27. There a million dollar corporation was proposed to be organized on lines similar to the Associated Raisin Co. and the committee started to raise the money, as was described in the Pacific Rural Press of Sept. 4. Local meetings have been held in various parts of Fresno county, and will be held in all peach-growing sections, to explain the situation and the plan of organization to peach growers, and to take subscriptions for stock in the company. Over $50,000 stock had been subscribed in the two weeks previous to this writing. The Reedley district alone had signed up over $10,000.

Chairman Wm. Glass of the committee, publisher of the Fresno Republican, says that while he is not a peach grower, he is financially interested in the success of the corporation because he is sure the peach growers will then have more dollars to spend for Fresno Republicans and the things it advertises. He is sure tbat every automobile dealer in Fresno, every furniture dealer, every clothier, has a direct interest and will back up tbe movement if the growers take hold with plenty of interest.

Secretary J. P. Bolton of the committee, another veteran of the Associated Raisin fight for organization, says that on his peach account, he is a heavier borrower every year, getting mortgaged beyond endurance. His orchard will have to go to other hands unless relief is found within two years. This is just a typical case of the desperation of peach growers. So the committee is giving its time gratis to help organization. There is no treasury nor money in it.

Details of Plan—25,000 shares of $40 each; $250,000 to be subscribed before Jan. 1, 1916, or goodbye peach orchards; subscriptions payable ¼ as soon as the trustees organize and ⅓ of the balance annually; stock to be held in trust by 25 trustees elected for a term of 7 years, at the first stockholders' meeting, each share being entitled to one vote; business to be transacted by a board of seven directors; a growers' contract similar to the raisin contract is contemplated to be worked out as soon as organization is effected; other details on which general agreement might be difficult, are left for the management to settle.

Easterners Want to Handle Peaches—The biggest distributing houses in the Middle West have seen newspaper reports of the organization and they have written their delight, and desire to handle the Chicago and St. Louis business of this organization which cannot be born till next January. The California Cured Fruit Excbange has expressed its sympathy with the movement. Chambers of commerce and the press of the State are lending their hearty supoprt.

Numerous large subscriptions have been made witb the condition that $600,000 be subscribed before beginning business. Among these is $2500 by Wylie Giffen, who says his experience as president of the Associated Raisin Co. convinces him that $600,000 will be necessary at the start in order to make it a success. That may be easily possible if all growers take a hand like the little bunch of Easton peach growers who, tired from long days' work in the vineyards following close upon their peach drying, and in spite of threatening rain, held a meeting on the night of Sept. 9, and in fifteen minutes signed up seven hundred and fifty dollars, besides getting volunteer committees to canvass their district.

Taxation Necessary; May Be Beneficent.

Taxation is necessary and may be beneficent. It should at least be constructive and not destructive. Otherwise it crushes industry and becomes, subjectively, suicidal.

A very impressive picture of the latter aspect of taxation is portrayed in his report to the California Association of Nurserymen by Frank T. Swett, chairman of its committee on viticulture, as follows:

In place of a long report summarizing details of production, planting and progress; we think it wise to emphasize one overshadowing problem, which is of vital importance. We refer to the taxing out of existence of a most important branch of the viticultural industry.

Owing to the action of Congress, in imposing on all wines a heavy stamp tax of eight cents a gallon, and in addition to that the levying of a tax of 55 cents a gallon on brandy used in fortifying sweet wines, present and prospective marketing has been curtailed. The cellars of California are full of unsold wine, an abnormal and unprecedented condition.

In the present condition of the country, where reduced tariff collections have impaired the National Revenue, the viticultural industry is willing to bear its full share, and to carry all the burden it can, without going out of existence. But an excessive tax defeats its own purpose, if it kills off the goose that lays the golden egg.

During the coming vintage a tax of 55 cents a gallon will be collected on all brandy used in fortifying sweet wines. Last year and for many years past the tax was 3 cents a gallon. And furthermore, through a probable inadvertence in drafting the law, after December 1, 1915, the tax will automatically become $1.10 a gallon, instead of reverting to the original 3 cents a gallon.

If the wineries could finance and endure the 55 cent tax, that would be 18 times the previous tax, and instead of $125,000 a year for California would be $2,250,000 for a normal production of California sweet wine. But those acquainted with financial and marketing conditions know that there can be nothing like a normal production in the face of such a tax. Comparatively little sweet wine will be made this year in this State.

And now we learn that after this year the tax becomes $1.10, which means a levy of $4,450,000 on 75,000 acres of vineyard, or a tax 37 times as great as a year ago; the impossibility is evident. There can be no misunderstanding the effect. It would be a crushing blow to tbe viticultural industry of the State.

The only alternative would be the conversion of sweet wine plants into dry wine plants, and tbe attempted making of clarets and white wines in districts fit only for producing ports and sherries. As the grapes in tbe interior hot valleys are not well adapted to the making of good dry wines this cannot be done on any large scale. In many districts the grapes would not even be gathered, but would rot on the vine.

The tax tbis season on a ton of grapes used in making sweet wine would amount to about $20 on tbat ton, and next year would amount to about $40 a ton.

The object of this law, that of raising additional revenue, is defeated by the impossibility of operating under the tax, and an industry which as a whole is valued at $150,000,000 is destroyed in part.

Tbis committee, therefore, believing that the nurserymen of the State desire to see everyone of our horticultural and viticultural industries fostered and upbuilded, instead of being hampered and destroyed, ask you to pass suitable resolutions, to be sent to Congress, through the medium of the State Board of Viticultural Commissioners, asking that Congress at its next session enact reasonable legislation for the relief of the vineyards of the State from the operation of the Act of Congress entitled "An act to increase the revenue and for other purposes," approved October 22, 1914.

STACKING BEANS.

To the Editor: In your issue of August 28 I notice a query from D. J. M. of Arroyo Grande, in regard to stacking beans. I remember, some years ago, Joseph Elvedge of Santa Maria stacked some beans and I think he had no trouble with them. However, if D. J. M. will interview him, as he is not far away, he will no doubt give him full particulars.

Isleton. **W. J. Phelps.**

[We shall be glad to have accounts from those who stack beans.]

Hemet Growers to Organize.

To the Editor: At an adjourned meeting of the San Jacinto Deciduous Fruit Growers, in Hemet, Sept. 5, a report of an investigation committee, composed of two of tbe local growers, Jay Dutter and Edward Schmidt, great enthusiasm was aroused for the movement that has begun among growers toward the co-operative processing and selling of their produce.

Mr. Dutter and Mr. Schmidt covered over two-thirds of the State on their investigating trip in an automobile and made a thorough study of tbe problem; a great deal of their investigation was of the working of the California Growers' Association, with headquarters at Tulare, Cal., which is a strictly co-operative association, and is formed by a number of local canneries, purely as a selling association; it is patterned some along the lines of the Citrus Growers' Association, also the raisin growers; but is mainly for the handling of canned and dried fruits of all kinds.

Their plans are to establish markets throughout the East, or wherever there may be a demand for their product, and distribute it through warehouse men, and direct to the retailer; experiments along this line of selling have been made last year with highly satisfactory results, and notwithstanding the fact that this is an ecxeptionally bad year; the results so far have been very promising.

A movement of this kind means that the more members or local canneries are in the organization the greater will be the success, and a

number of localities over the State who have heard of this organization are clamoring for admission to the association, and the central office is swamped with requests for the manager to come and organize them, and bring them into the fold, and this is being done as rapidly as possible, with the busy season of packing on, and the markets to look after.

The Hemet and San Jacinto Valley growers, after the report given by Mr. Dutter of the committee, and upon the committee's recommendation, apopinted a committee of seven members to solicit subscriptions for membership, and organization will be effected as soon as possible, hoping that they will be able to yet handle some of the olive crop this fall.

Jay Dutter.

Citrus Bud Selection From Proper Limbs.

[Written for Pacific Rural Press.]

Frost resistance and other good qualities are gained by selection of nursery buds from proper limbs, but they will vary unless taken from twigs with desired kind of fruit on it and having the desired characteristics.

Almost startling improvements have been attained in the yield of citrus trees by A. D. Shamel of the U. S. Dept. Agr. by top-working unproductive trees with buds from prolific bearers. Mr. Shamel emphasizes the need of cutting the bud stick with the fruit on it, using only plump, healthy buds on the twig back only to its first junction with another. Bud sticks without fruit are not desirable because they are not dependable to reproduce the type of fruit borne on other twigs of the same tree. Fruit must be on the twig when it is cut, so that it may be examined and found of the desired type.

Opposed to this conception, in a way, is the conviction of Carroll B. Smith of San Bernardino county, who makes an argument based on his own experience that, "No matter how definite the origin of citrus buds, the trees from them are going to have variations in foliage and fruit." Mr. Smith believes that buds from suckers coming from fruitful limbs (though not those coming from the trunk) make as fruitful trees as buds from real fruit-bearing wood. Moreover, he says, "In practice you can't select buds just from the limbs, but select prolific trees in prolific orchards, and take the buds from them."

Sixty Trees Budded from One Limb.—When Mr. Shamel began his tree record in the citrus orchards of California in 1909, Mr. Smith had pedigreed navel trees two years old in orchard form, all having come from a single limb from a tree in a neighboring orchard. The limb from which the buds came had been noticed because it bore fruit prolifically, 45 to 50 oranges that would delight the heart of anybody. The oranges looked like the pictures with which the California Fruit Growers' Association advertise "Sunkist" oranges. They were beautifully colored, regular shape, uniformly sized 150, with never a cull or a second for the six or seven years before the freeze of 1913.

Varied in Frost Resistance.—At the freeze of 1913, the 60 trees showed all variations of hardiness, from being killed nearly to the ground to but very slight defoliation. Fifty-six of the trees showed themselves less hardy than the average of 2000 Navel trees of the same age in a neighboring orchard, while four of them showed marked resistance so that they were not even defoliated to serious extent. The 60 trees, which are planted in four rows on level ground among other orchards near Redlands, still show very plainly the effects of the freeze. Some of them had to be cut back almost to the ground and many of them lost more or less of their big limbs. The four which showed themselves as hardy as the hardiest of the neighboring navels were beautiful large trees with their third crop of fruit on, when seen March 5, 1915.

Compact Fruit Wood. — The general appearance of the whole sixty trees is different from neighboring orchards, however, in that on the date mentioned there was considerable new growth which contrasted strongly with the small dark, green leaves compactly surrounding the multitudinous fruit. On the four hardy trees, when one would lift up the heavy outer "skirt" of fruit limbs so heavily loaded that they hung nearly vertical, another "skirt" still loaded with fruit would be exposed; and under that, still another. So the trees were well filled with fruit almost to the center, and all hanging on good, slender fruit wood. The fruit, however, even on open limbs of the same trees, was in various stages of ripeness, some of it being bright yellow and some of it dark orange. The skins varied in texture from coarse and thick to thin and smooth. Even the navels showed considerable variation in sizes. Some of the branches reproduced the same kind of fruit which had been borne on the parent limb of the whole sixty.

Keeps Records of Parent Trees.—Mr. Smith is keeping records of the amount of fruit and its quality, because he is propagating from the four as fast as he can get bud wood. At the time of the freeze, he had several thousand buds from the sixty pedigreed trees, but owing to the damage by frost, he threw all of these away and began again with buds from the four trees only, though he left all sixty of the trees for further observation.

There will be no nursery trees for sale from these four trees for some years because Mr. Smith hopes to work up a large number and observe the fruiting of the second generation of buds. Meanwhile, his records of the parent trees will serve him a good advertising advantage as the purebred live stock men use their pedigrees.

The surprising variation in fruit and frost resistance from the sixty trees from the same branch does not prove that bud selection is a failure, but it does prove that the commercial selection of buds from heavy producing trees, regardless of the twig which bore the fruit, is not certain to reproduce the quality and quantity of fruit borne by certain heavy bearing limbs of these productive trees.

RUSSIAN THISTLE IN MONO COUNTY.

To the editor: Please tell me about the plant which I enclose. Is it the Russian thistle?—J. C. D., Mocalno.

[Answered by Dr. H. M. Hall, University of California.]

The plant submitted, as you suspect, is the Russian Thistle (Salsola kali var. tenuifolia). This is the same Russian Thistle which causes so much trouble in the eastern States and which is becoming rather common in California.

Since it is an annual, it would seem a rather easy matter to destroy this weed; but because of the large number of seeds produced by the plant, its eradication is more difficult than one would at first suspect. If cut off at the surface of the ground the Russian Thistle does not grow again. Hence it seldom becomes objectionable on land which is frequently cultivated. The difficulty comes in where the plant is allowed to grow in waste places, since cultivated fields are rapidly infested by the seed of these neglected plants. Sometimes it is found practicable to burn the plants and thus destroy the seed, but it is better to pull or cut them before the seed is formed and to practice thorough cultivation wherever this is practicable, with the idea of destroying the young plants.

MORE GRAPES; LESS WOOD.

To the Editor: In reply to your letter, the aid to vines can be seen plainly. The more a person stirs up the soil the better it is for it and there is nothing that keeps the moisture close to the surface of the ground better than cultivation. As long as the moisture is close to the surface there will be no danger of sunburnt grapes. But most people in this vicinity stop cultivating too early in the season and the results are supburnt grapes, plenty of which you may see at this time.

The changes we made in pruning were cutting back; not leaving as many spurs as formerly and taking the arms back to the crown of the vine. Of course this can not be accomplished in one year. We also were particular when cutting off a limb to cut close to the bud so that when the scar healed there was no dead wood left to harm the vine for another year. As for added expense, we could see no difference, as it is just as cheap to make a cut close to the bud as an inch from the bud.

We followed Henry's system of pinching, that is when the vines were out about six or eight inches and the forms of grapes could be seen. We pinched the end out of the limbs. We did this both on Thompsons and Muscats. The cost was a small item, as one man could go over more than one and a half acres of Thompsons and about three acres of Muscats. Of course a man could not do the same on old vines. We have wonderful bunches on both kinds of vines, caused by pinching. In a great many cases the limb did not put out any more leaves and the bunch of grapes took all the sap that came out of the limb. We have measured a great many bunches of Thompsons and find many as long as sixteen inches and found one seventeen and one-quarter inches long. We consider this pretty good on two year vines.

In pinching Muscat vines we left all the suckers that had any forms of grapes and broke the limbs off close to the last bunch put out and then took off all the side laterals, which causes the suckers just to finish the bunch and not put out any more wood. In this we find some of the best grapes on the vines: that is in size of berries and clusters.

Alva Rouch.

Kingsburg, July 19.

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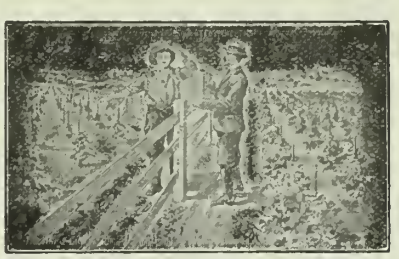
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Who Can Make These Trees Bear?

Here is a chance to start a discussion of nearly everything involved in fruit growing from the soil to the sun. Who will take a whack at the nut?

To the Editor: We have about 15 acres of pear (Bartlett) orchard; the trees being about 15 years old. One-half of the trees make a normal wood growth and bear what we consider a full crop. In one location, however, about in the center of the orchard, about one-fourth of the trees do not bear regularly, and only average about one-fourth of the crop (average per acre).

These trees make a very vigorous wood growth, some canes running up 6 and 7 ft. In all they make over double the wood growth of the trees on the edge of the orchard that bear a full crop. In the other quarter of the orchard, the trees bear heavily and make only a very little wood growth. About 6 to 8 in. for this season.

The soil all seems to be about the same with moisture conditions equal. In some cases on the last referred to quarter, I know of some cases of "crown gall" or "root knot" which would be responsible for the small growth.

I have figured on pruning now that part where the wood growth is so strong, and thin out the trees so as to leave them well open to light and air. I cannot, however, learn from any of our neighbors if this would be practical. One neighbor had this same problem and did as I have mentioned several years ago. As I did not see this orchard until a few days ago I cannot determine the results very well. He has also used commercial fertilizer on these trees. He is now inclined to attribute his success to the fertilizer rather than the pruning. His orchard now ranks above the average in this locality. What have you to say in regard to the early pruning? Can you recommend other means of making these trees come back to normal condition? The growth is so rank that the trees fill in on top and become dark in the centers very early in the season; while the trees are formed very similar to those referred to as normal.

Martinez. R. W. Schmitt.
Sup't. Spring Hill Farm.

[Our guess would be that this bunch of trees had rooted down into a manure mine or found a spring or some other aggregation of moisture and plant food. To repress the growth the pruning should have been done a month or more ago, but still may have some effect. After thinning somewhat to be sure of light enough we should let the trees go uncultivated this winter and next summer and expect plenty of pears in 1917. Now the subject is open. —Editors.]

NATIONAL FOREST TIMBER FOR SALE.

The U. S. Forest Service is offering for sale 100,000,000 feet of timber on the Plumas National Forest, California. It is located in what is known as the Meadow Valley Unit and is within reach of the Western Pacific Railroad. This timber is estimated to cut out 60 per cent sugar and yellow pine. The tract has been cruised and appraised by the Forest Service and a form of contract drawn up, which allows a period of fifteen years for the cutting and removal of the timber exclusive of the time required for the construction of a mill and other improvements. In accordance with the law governing sales from the National Forests, only merchantable timber is sold. It is paid for in installments as cut. Title to the land remains with the Government, and young trees are protected from fire and other damage in order to insure a second crop. Full information concerning the above timber and the conditions of sale may be obtained from the District Forester, San Francisco, California. Bids will be received to and including November 4, 1915.

BEAN WEEVIL.

To the Editor: Will you kindly tell me how to keep the weevil and other insects out of beans, as I want to put away about 50 or 75 pounds for the winter?—J. C. S., Ontario.

[The weevil is started in the green growing bean, the egg being laid on the seam of the pod when small. Beans should be gathered as soon as ripe. If there are then bean larvae working on them, they can be killed by heating the beans to 130 degrees in the oven, but of course one must not get higher heat if it is expected to plant any of the beans next year. The larvae can also be killed by putting the sack in a tight barrel, placing a saucer with an ounce of carbon bisulphid on top of the sack. Cover the barrel with a sack and leave about 40 minutes. Do not let any fire get near or you may have an explosion. It should be done in the open air]



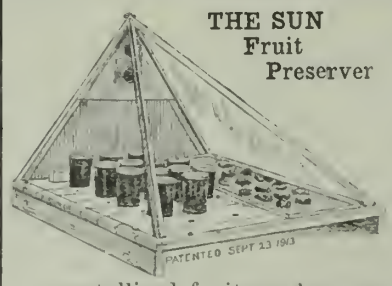
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Early Purple Vetch in Prune Orchard.

[Written for Pacific Rural Press.]

In the last of May last spring we saw A. P. Marston of Santa Clara valley turning under a thick, heavy growth of purple vetch in his prune orchard. It was in full bloom and had no aphis visible. It had been left so late in order to provide all the hard stems possible to furnish more humus, though the land was rather black and heavy anyway.

A cow had been tied by a rope to a number of the trees in the orchard and had eaten off the vetch almost clean.

"It makes as good feed as alfalfa," says Mr. Marston, "and I could cut four tons per acre right here in the orchard."

Two acres were not inoculated, but were planted under the same conditions at the same time, beside the rest of the orchard in which the purple vetch seed was treated with bacteria to encourage the taking of nitrogen from the air for use in building up the plants and their roots.

This cover crop stood supporting itself with practically no weeds or other vegetation growing among it, well above the knees of an ordinary man. On lifting up some of the plants, much old, deadened vines were found under the growing ends, so that individual straws were well over 6 feet long. Bur clover growing beside it was slightly over ankle deep at the same time, but well matted.

This late plowing of the vetch was all right in Mr. Marston's case because he had irrigation water with which to soften the ground if the late spring should bring no rains. Irrigation was not needed this spring as it usually is when plowing is delayed so long. The seed had been planted late in September the previous year where purple vetch had never been grown before, though rye, bur clover, etc., had been growing as a sort of volunteer cover crop.

"I won't have to inoculate this section any more," says Mr. Marston, "though two acres where the seed was not inoculated last fall will have to be, next time, because it produced only about one-fifth of the green tops per acre this year as compared with the inoculated part."

WHAT SHOULD STATE HORTICULTURE BE?

[Dr. Cook defends his style of Fruit Growers' Conventions and convinces us that we like his kind worse than ever, because it does not serve the purposes of the State in providing for help to fruit-growing.]

To the Editor: One of our leading fruit growers called my attention to your editorial, in which you criticise the recent State Fruit Growers' Convention held at Stanford University. I had not read the editorial. He wondered how you could so mis-state facts. I excused you on the ground that you had not attended and that second-hand reports were often wide of the truth.

You refer to attendance. As you must know from the attendance at farmers' institutes, the number present is often very limited. Of course the time of the meeting at Stanford, during the fruit harvest, was unpropitious; yet it would not have been possible to secure the very excellent program—commended by all who have spoken to me—at any other time, which fact more than warranted the date. Able men the country over were to be here for other purposes; to not capture them would have been inexcusable. I am sure you will wish to give your readers the facts.

Before Mr. Jeffrey's administration there were thirty-two such conventions, with an average attendance of 194, with a minimum of 75 and a maximum of 676. Mr. Jeffrey arranged for seven conventions; the minimum attendance was 144, the maximum 670, average 290. During the present administration there have been seven conventions — besides the two emergency conventions which were both very largely attended—with a minimum attendance of 161, a maximum of 1200, and an average of 467. The attendance at the Fresno convention in December, 1912, was 161; at the San Jose convention, December, 1913, 167; that at Stanford University 235. This proves that the date of the meeting is not the only determining factor. The papers are published and have a wide reading. This probably accounts for the meagre attendance in so noted a fruit country as Santa Clara.

In your criticism you complain (as you did of the Santa Barbara convention, which all others, as far as I know, praised as of exceptional excellence) of the leaning toward academic preference in selecting the speakers. You will remember my insistence, in all the twelve years when I was conductor of institutes for the University, much of the time under your direction, that at least one-half of the papers be from actual farmers or fruit growers, and that if either force was augmented it should be from the practical side; and while I was working for the University you, in your annual reports, were exceptionally complimentary in commenting on the work. You will see I have not changed in my policy. At the Stanford convention, of the 52 addresses, 29 were from the practical side, 23 from the academic.

A. J. Cook.
State Commissioner of Horticulture.
Sacramento.

[Comments upon the foregoing may be found upon another page.—Editors.]

FEEDING SUNFLOWER SEEDS

To the Editor: What can be said of sun flower seed as a food for chickens and hogs? And to what extent should it be fed?—F. E. R., Rialto.

[The seed is rich in oil and should be fed rather sparingly and in connection with other feeds. Fowls and hogs with range or pasture can be fed rather more freely sun flower seeds than those in yards. For laying hens special care should be taken not to feed too much.—Editors.]

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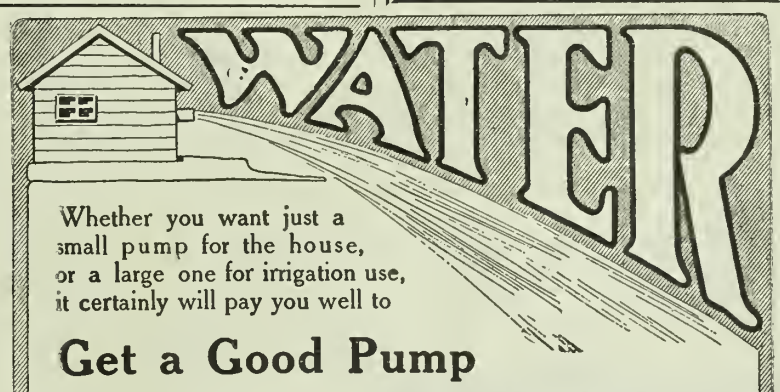
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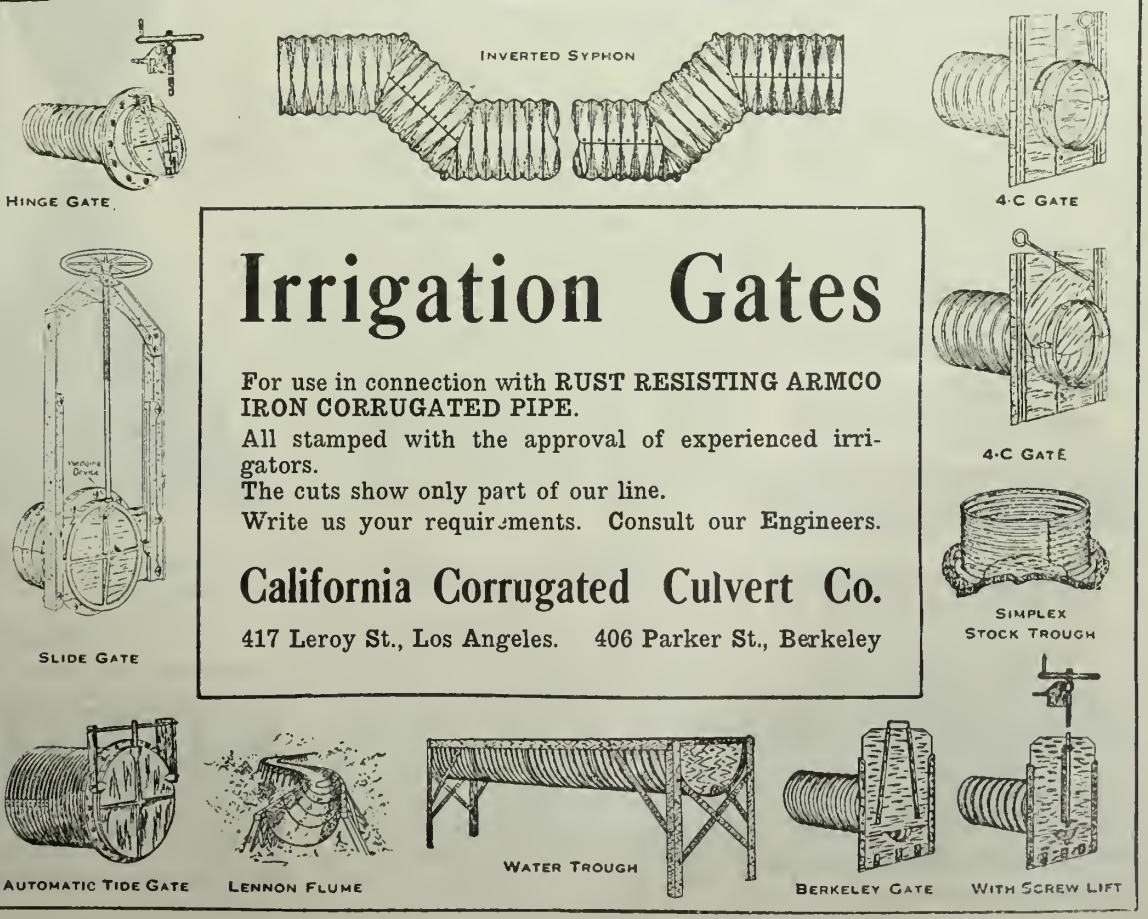
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ALMOND HULLERS FOR SMALL PLACES.

[Written for Pacific Rural Press.]

Hulling the almonds from a 10-acre orchard doesn't justify the investment in a large machine. A Penrod, who came to Orland last May from the East, hulls his satisfactorily by getting a "Sure-pop" almond huller run by a 2 h.p. International Engine which is set on a frame of 3x8 planks resting temporarily on blocks. An iron wheel 28 inches in diameter supports the frame on each side about 18 inches from the back end. Two small wheels under the front end complete the equipment for quick and easy moving of the engine. The almond huller, including all delays, loosened the hulls of a lug box of IXL's in three minutes, though it could have been run much faster if Mr. Penrod had kept it busy.

Where the hulls are green or are tightly closed, a little adjustment of the gearing runs the machine slower and gives the nuts a more severe shaking up. A rotary fan blows the leaves out as the almonds are shoved across the edge of the hopper to drop into the threshing cylinder. They hulled in 1½ hours all that they picked in the rest of a half day, but the nuts are picked out from the loosened hulls by hand, six women sitting at a table, lengthwise of which across its center is a hopper into which the nuts are dumped directly from the huller and picked out by the women from a lower aperture.

Electric Driven Huller and Separator.—Mr. Penrod's neighbor, Dan Sturm, has a larger orchard and a big new "Sure-Pop" huller made by the Schmeiser Mfg. Company run by a 2 h.p. electric motor in a shed.

One man rakes the freshly picked nuts into the hulling machine through which they run onto shaking screens. The stick-tights are automatically returned through the machine, while the shucks are dumped into a pile by way of an endless belt which runs past a girl who picks out the few nuts which run over. Those nuts which loosen all right are run out on a belt past two girls who pick out the few stick-tights which come with the nuts, which are then dumped onto large sized drying trays on which another girl spreads them out.

Two men carry the loaded trays to the drying yard where they are dried so that the meats will break without bending. They are taken to the dipping vat in which they are submerged a short time by laying an empty tray on top to prevent floating. After the wetting, the nuts are put in a sulphur house and fumed to bleach the shells.

They are then stacked 14 trays deep with three-quarter-inch boards between the trays and an empty tray on top to allow the wind to dry them, but to keep the direct sun from the nuts.

Mr. Sturm is getting less than his motor capacity on account of the electric transformers being located 150 yards away, so that the huller often requires all the power available. If the transformers were close enough, they could get full capacity, with an overload when necessary.

MOTOR MOVABLE FOR IRRIGATION, ETC.

[Written for Pacific Rural Press.]

Pumping for irrigation has become so common that the power used for it is also used for many other purposes on many ranches. On one just out of Yuba City is a 5 h. p. electric motor fixed on a frame beside the well so that the motor can be easily removed at the end of each irrigation by removing nuts from bolts through the frame so it may be set up elsewhere on the farm.

Insulated wires run down from an electric pole on the roadside. When not in use, the current is shut off by a switch located near the top of the 30-foot pole and operated by a slender hand pole which works up and down under iron clasps. This is locked open or closed as desired.

CATERPILLAR PREVENTS THIRST.

[Written for Pacific Rural Press.]

After a tremendous fire had destroyed the Vina Ranch winery and the 60-foot water tank which supplied the large herd of dairy cattle and horses, quick work was necessary to prevent dire thirst.

One of the pipe mains was tapped, a hose connected to it and across to the irrigation ditch. There a 2½-inch Woodin & Little centrifugal



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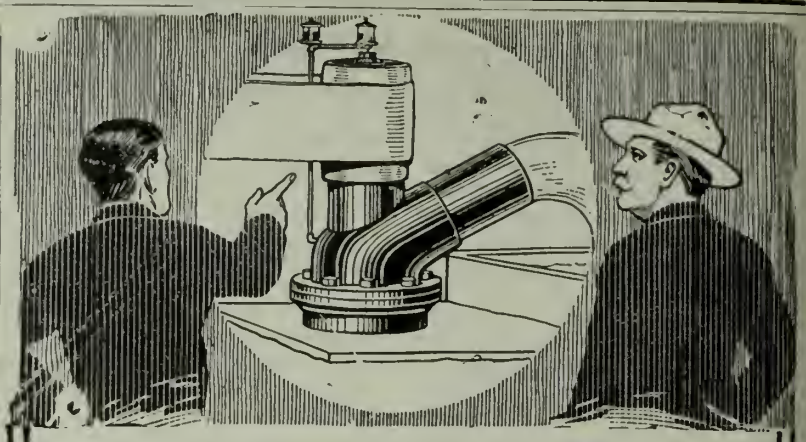
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ORCHARD ALFALFA MUST BE WATERED.

[Written for Pacific Rural Press.]

Using alfalfa planted throughout the peach orchard, leaving a 4-foot strip of cultivated soil on each side of the rows which are 20 feet apart, seems not to have hurt their fruit-bearing ability nor their growth on G. B. Abbott's farm near Corning. The yield of fruit on three acres of Elbertas for the past three years has been 19, 25, and 17 tons. The alfalfa is usually cut three times before fruit picking and has to be clipped out of the way. A fourth full cutting is made in the fall.

It must be irrigated regularly and often, so that water is pumped from a well at the house by a 3 h.p. electric motor, using a 2-inch pump which runs a 3-inch underground pipe full of water 300 feet to the orchard, where it is distributed by means of 3-inch galvanized pipes in 20-foot lengths.

The cultivated strips between the rows serve the purpose of levees so it is a check irrigation, using surface pipe. The checks are 480 feet long and are watered from both ends, there being a "Y" in the underground pipe to let the water to both sides of the orchard.

Mr. Abbott points out the advantages of pump and pipe irrigation as being "no malaria; pump when you want water; no ditches to clean; no weed seeds carried in to grow along the ditch banks and in the orchard; and no mosquitoes."

The pump also supplies water for the house and farm buildings by the way of a 2-inch pipe to a tank 25 feet high.

ENGINE TO PUMP FOR STOCK.

[Written for Pacific Rural Press.]

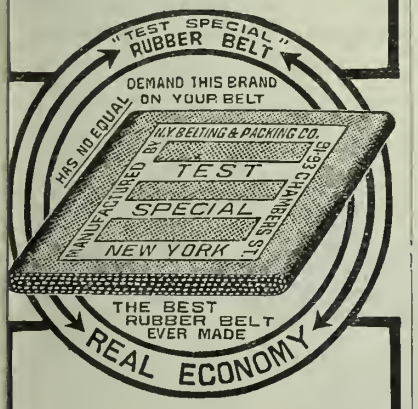
There is not much for an engine to do on the farm of L. F. Killenbeck of Orland, but he has a little 1¾ h.p. set on a hand cart to be pulled about the place as desired. It pumps water for the cows, horses, and hogs, being attached to the pump by a cog gear on the belt wheel to a large cog wheel with a pin near its circumference. This pin is the axle for a vertical arm which reaches up to one end of the horizontal pump lever. Another vertical arm parallel to the first is worked by bending the end of the shaft on which the big cog wheel works, to Z shape so that its short end works in the same circle as the pin through the first mentioned vertical arm.

The frame for the gearing is fastened to the engine, and is held solid by a clevis set over a post in the ground. The horizontal pump lever is held by a bolt between two posts high enough so that the opposite end from the gear connection holds a 20-inch iron strap down to the pump rod. The boys are glad, for now they don't have to pump water for the very considerable herd of stock. In the opposite direction from the engine a belt is run to a grindstone axle which revolves in holes through two 3x4s leaned against the barn with the lower ends stuck in the dirt.

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Town _____ Inches _____ Ply

Width of Belt Used _____

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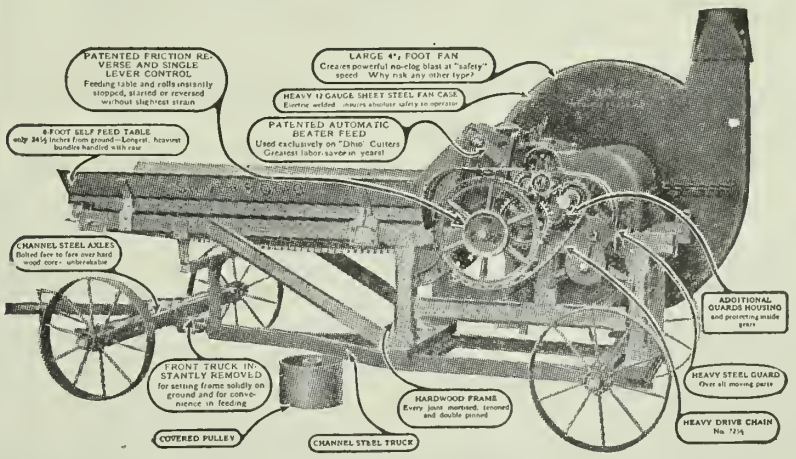
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General Agricultural Review.

CITRUS AND SEMI-TROPICAL.

There are six citrus packing houses in the San Fernando district of Los Angeles county.

Harry Postlethwaite is fumigating the large orange orchard of which he has charge near Lindsay, with machine outfits.

The four-acre orange grove set out by A. E. French on his ranch near Mt. Vernon last year is looking in a good, healthy, thriving condition.

An orange marmalade factory has been established at Anaheim by Thos. Crawford. While the industry is yet in its infancy, Mr. Crawford feels that its possibilities are unlimited.

The cost of fumigation work in Porterville, which was estimated early in the season at 35 cents a tree, has been reduced to about half that, according to the county orchard inspector.

The U. S. Plant Introduction Gardens at Chico were recently visited by members of the Bureau of Plant Breeding of the Dept. of Agr. to observe the results of citrus crossing experiments being carried on there.

The McPherson packing house at Orange will shortly reopen to finish packing about 85 cars of the association's Valencias yet to be forwarded; and will remain open until the end of the Valencia season.

Growers in the Pacoima section of San Fernando valley have organized the Pacoima Hills Citrus Association and will erect a packing house there, shipping their fruit through the Mutual Fruit Distributors.

Growers in the Alta district of Tulare county have formed an association to be known as the North Tulare Citrus Association, its chief object being the promotion of the industry along businesslike lines as well as the care of the orchards on scientific principles.

According to a recent commerce report, date growers throughout the Coachella Valley have received their share of the date-palm offshoots recently imported by the Date Growers' Association from the date gardens of northern Africa. The distribution of the palms is under the direction of the Government.

DECIDUOUS FRUITS.

The Visalia canneries expect to finish their season on Sept. 21.

The Nevada county pear shipping season is at present at its height.

An estimate places the Oregon apple crop at one-third of last year.

About three hundred cars of apples have been shipped from Watsonville this season.

"Prune Week" will be celebrated at the Panama-Pacific Exposition October 4 to 10.

The growers' cannery at Kingsburg have packed over 50,000 cases of fruit since opening.

Vacaville has shipped to date, Sept. 20, 830 cars of fruit as against 737 to the same date last season.

The harvesting of prunes has begun at Corning, and growers are well pleased with crop conditions.

Thos. Anderson of Anderson, Shasta county, states that the prune crop is turning out good in that section this year.

Returns on the first pool of the Sebastopol Apple Growers' Union yielded 76c for 4-tier and 53c on 4½-tier Gravensteins.

The packing of late varieties of apples is in full swing at Sebastopol; the Apple Growers' Union estimates that the season will be over Oct. 20.

The plant of Libby, McNeill & Libby at Selma broke all previous records for one day's run on Sept. 6 when 131,000 cans of peaches were packed.

An estimate made of the Kings county prune crop places it at 50 per cent of normal, with the lack of quantity made up in the high quality of the fruit.

Red spider is partially defoliating many Fresno county peach orchards; and little leaf of peaches is taking a very considerable percentage of Fresno county trees.

Claiming that it was working a hardship on packer-members of the Apple Distributors of Watsonville, the Board of Control has removed the minimum price on the "B" grade of apples.

The minimum price on Bellefleurs (four-tier apples only) has been raised from 75c to 80c by the Executive Committee of the Watsonville Apple Distributors; the new rate took effect Sept. 17.

Large quantities of peaches are being shipped from Loomis in lug boxes for southern California green fruit trade; this is an innovation, as peaches are seldom shipped in that manner except for canning.

According to a recent consular report, the short apple crop in England should create a large demand for American fruit. One estimate places the yield of early apples at one-third of a crop, and late apples at one-half a crop.

The first arrest in Fresno county for violation of the new fruit standardization law took place when the county horticultural commissioner swore to a complaint against a packer in the Clovis district, who shipped grapes to New York after they had been condemned for mildew.

A recent commerce report states that a cannery factory at Sodus, N. Y., has been experimenting with cherry pits this season. The pits are first dried and then crushed in preparation for a process which extracts the flavor of the kerneis. The extract obtained is used to give flavor to the canned fruit.

The plan to establish a deciduous fruit shipping industry at Oroville is meeting with favor, and much interest is being shown by non-resident owners of deciduous fruit lands. It is the plan of the owners of small tracts to plant their acreage to a fruit agreed upon by several of the growers, so that in all about 200 acres will ripen at the same time for shipment.

The California Cured Fruit Exchange, San Francisco, has recently affiliated with itself the Del Rey Cured Fruit Association, the Fresno Cured Fruit Association, the Kingsburg Cured Fruit Association, and the Visalia Cured Fruit Association. They also report the withdrawal of the Corning Cured Fruit Association, the Hemet Cured Fruit Association, and the Napa Cured Fruit Association.

MISCELLANEOUS.

Reclamation work on a 21,000-acre ranch in Klamath Falls, Oregon, is being carried on.

A fruit and flower festival is being planned at Paradise, Butte county, for early October.

Work on the drainage system of the Natomas District 1000 is expected to be finished by January 1, 1916.

The Modesto Irrigation District will spend $50,000 this year for improvements, according to a decision made by the Board of Supervisors.

It is reported that the Colusa-Hamilton Railroad Company of Glenn county is planning to build a depot at Codora, lay out a township and call it Razor.

The fourth annual St. Helena Vintage Festival and first Napa County Farm Bureau Fair held at St. Helena Sept. 3 to 6 was successful beyond the fondest hopes of the committee in charge.

Major Narboe of the State Engineering Department recently made a trip of inspection to the San Joaquin Valley to investigate the plans of a contemplated irrigation project near Visalia, containing 12,500 acres of land suitable for the production of citrus fruits.

An organization known as the Northern California Counties' Association was recently perfected, the

Spalding-Robbins Disc Plows

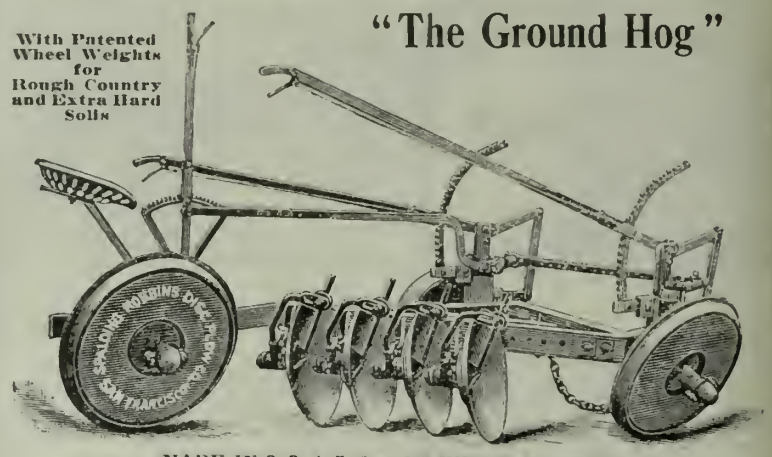
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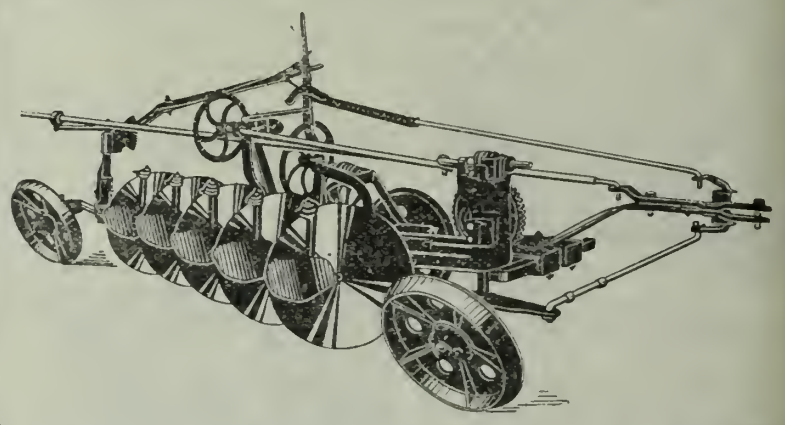
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object of which is to promote the development of Modoc, Lassen, Siskiyou, Trinity, and Shasta counties. Congressman John E. Raker was elected president and Roscoe J. Anderson, permanent secretary.

OLIVES AND NUTS.

The harvesting of the walnut crop has commenced in the Saticoy district; a two-thirds of normal crop is expected.

It is reported that locusts have devastated Syrian olive groves to the extent of destroying two-thirds of the crop; olive oil prices are advanced accordingly.

The Durham Almond Growers' Association has sold the entire 250-ton output of its members at the prices fixed by the organization; the total receipts are between $60,00 and $70,000.

Farm Adviser, H. A. Weinland, of San Diego county, reports that he has spent some time with the prominent ranchers of Fallbrook formulating plans with them for an Olive Day which should be held in November in that locality and which should be an annual event. Exhibits of all kinds will be gotten together for this and it will be the stimulus, it is hoped, for a rivalry in growing the best crops in the locality.

About 70 olive growers attended a meeting at Lindsay Sept. 11, to hear about the California Ripe Olive Association which is forming to develop markets for the crop. Many of them signed up and others took membership applications to be sent in later. Over 125 growers had signed on Sept. 11, including much of the largest acreage in the State, besides a large number of small growers.

GRAIN AND FIELD CROPS.

The harvesting of beans has begun in the Saticoy district.

The lima bean crop is reported good in Santa Barbara county.

The first experimental planting of rice in Shasta county is proving successful.

Claiborne White of Stockton was the winner in the potato growing contest of the Stockton High School Agricultural Club.

The first harvesting of beans on a large scale in Sonoma county will shortly take place on the 180-acre Guilou ranch near Windsor.

The trial fields of rice planted south of Marysville last spring are reported to be looking well and promise a pretty fair yield.

At the end of the grain harvest in Kings county, it is estimated that the yield was close to 4,000,000 sacks, bringing the growers about $10,000,000.

San Joaquin Valley sugar beet growers are harvesting a big crop this season; next year it is expected that there will be an enormous increase in the acreage.

Roy Huffman of the Chico High School holds the State Record for the largest number of potatoes grown on a quarter of an acre, having produced 5490 pounds.

It is expected that the rice planted experimentally on a field near Claus, Stanislaus county, by the Modesto Irrigation District, will yield 25 to 30 sacks to the acre.

The Wheatland hop harvest has been completed; this season has been one of the most orderly ever known, and good wages have been made by most of those employed.

The Board of Supervisors of Butte county have organized a drainage district, to be known as Butte County Drainage District No. 100, which will include 20,000 acres of rice lands near Richvale.

About 100 Biggs and Richvale rice growers recently joined the Pacific Rice Growers' Association, a co-operative association for the marketing of rice products, incorporated at Oroville several weeks ago.

With approximately 34,350 acres sown to rice in California in 1915, the acreage has been doubled in a year, and a remarkable increase has taken place since the first planting in 1912 of 1400 acres near Biggs.

On the ranch of McMurray Bros. near Merced a giant watermelon was raised, which weighed 91½ pounds, with the major circumference measuring 4 feet, 10 inches, and the minor circumference 4 feet 3 inches.

A high school agricultural club has been organized at the Oakdale High School, and the school trustees are endeavoring to secure the use of different vacant lots about the city to be used by the members in their experimental work.

This year the acreage of Indian corn has greatly increased in Colusa, Sutter and other up-river counties, as well as in some of the sections down the river; growers claim that the California product can successfully compete with the eastern.

The University of California has leased a portion of land near Stockton on which will be conducted a fertilization experiment intended to show wherein the grain yield of the Valley may be increased; and, if predictions come true, $20,000,000 will be added annually to the yield.

GRAPES AND SMALL FRUIT.

On Sept. 12 a fire destroyed the Forestville winery near Santa Rosa, one of the largest independent wineries in Sonoma county.

Muscat picking in the Dinuba district of Tulare county is completed; growers have found the yield larger than they anticipated, and the quality above the average.

The California Associated Raisin Company announces the purchase of the Frank Lyman & Company packing house of Fresno, thus taking over about 3,000 tons of raisins.

The West wineries at Lodi have commenced receiving grapes from growers who wish to have them crushed and retain the wine in their own names until the market opens.

On account of the low prices being paid for grape culls and wine grapes, it is reported that many Tokay growers of Lodi are feeding their product to livestock with good results.

The opening of school at Fresno has called back all available boys of all ages and sizes who have been in the country picking grapes, in an effort to supply the shortage in field labor.

The "Raisin Special" which carried the second trainload of raisins from California to the East made a record run for a freight train, arriving in Chicago 131 hours from the time it left Fresno.

The offer of the California Associated Raisin Company to purchase certain varieties of wine grapes, which was to expire on Sept. 12, has been extended; so far more than 5,000 tons of these grapes have been purchased.

The Associated Raisin Company have finished seeding raisins at their plant at Hanford. It is stated that the market outlook is very bright at this time in spite of the fact that this season's crop is one of the largest ever grown in the State.

At the government experimental vineyard near Fresno, between 65 and 75 tons of grapes are being prepared for shipment to the Horticultural Palace at the Panama-Pacific Exposition.

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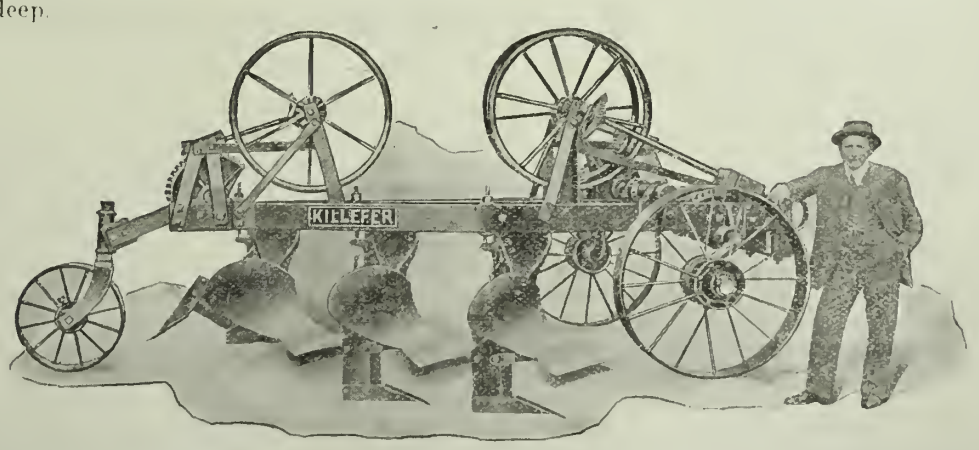
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[Written for Pacific Rural Press.]

BANK LOANS TO BUY COWS.

One colony in the Upper Sacramento Valley is said to be going ahead of another largely because in the first mentioned colony there is a great tendency to keep livestock while in the other one there is scarcely anything but fruit. Some of the fruit growers realize their need of stock, but cannot get it.

The organization of a National Bank at Corning, largely controlled by farmers, received new impetus recently when Congressman Raker made a widespread investigation into the need for it and promised his support. F. L. Cook, a Jersey breeder of that section, is especially interested and hopes that the bank will lend some competent man money to go to dairy sections and buy cows to sell at cost to local farmers on their notes executed at 10 per cent.

Bank Loans on Cows Upbuild Community.—It is hoped that they can arrange to lend money to the full value of the cows and pay with half of the cream checks. This plan is modeled after the one successfully put into operation at Orland when the First National Bank there organized in March, 1913. This bank started and continued with the idea that the prosperity of the community depended on livestock; that dairying was the right kind of livestock because it begins to produce returns at once; that the farmer who shows himself willing and capable of handling cows ought to have them; that the bank is the best medium through which to buy cows to the advantage of the community, the individual, and the bank itself. Bank loans on cows are better than on other livestock because repayment begins at once; and the money is immediately loaned to other cow buyers, forming a revolving fund continually used to upbuild the community. There are now above 3000 cows on this project bringing into the town approximately $725 per day and increasing the fertility of the land.

Cows Safe Security.—John J. Flaherty, Cashier of the First National Bank of Orland, says that his bank loans money to the full value of the cows at 8 per cent interest, allowing the man to buy his own cows and repay with half of the cream checks. In order to get such a loan, a man must have contracted to buy a farm in that community and have paid part down. If he is buying raw land, he will not be able to take care of cows for a year or a year and a half, and by that time the bank will be acquainted with his energy and business management. If the place is improved and ready for cows and the buyer can furnish satisfactory references from his recent location, he may have the money at once. Money has been loaned to one man to the full amount to buy 20 cows at once and the bank has never lost a dollar on this class of loans.

Cows First; Fruit Afterwards.—"Getting into the fruit business is awful uphill business," says Mr. Flaherty. "I believe that this country will be planted out to trees eventually, but we must get into dairying and hogs first till we get on our feet. Alfalfa pays $12 to $18 a ton marketed in the form of cream and skim milk."

The Los Molinos Land Co. has put nearly 2000 cows on their colony under similar conditions, though they prefer their settlers to own their own cows. Some of the newcomers, unacquainted with the work of dairying or alfalfa raising under irrigation, have not made satisfactory success and their cows are for sale, though the company retains its equity in them. Anyone else wanting to buy these cows may arrange with their possessors as to price, which averages about $90, and the company buys them for him if he has a place on which 10 per cent has been paid down and has alfalfa and shelter for cows. The cost is paid back with half of each monthly cream check, with a minimum payment of $3 per month per cow plus about 50 cents interest at first payment. They do not advise starting with more than five cows unless the settler has had previous successful dairy experience.

Sheep While Starting an Orchard.

[Written for Pacific Rural Press.]

Making sheep pay the living expenses on 40 acres while orchards are coming into bearing is the plan successfully worked out by A. Heyward of Orland as the result of articles written in the Pacific Rural Press. He has 60 acres of alfalfa pasture in two pieces for alternate use; 9 acres of alfalfa hay; 15 acres of almonds interplanted with corn, beans, and 1250 Thompson seedless grapes. The remaining 10 acres are yet to be planted to olives.

It was three years ago that Mr. Heyward came to the Orland project after teaching school many years in Illinois and Dakota. He combined with two neighbors to buy 100 wild, mountain-bred Merino ewes, though the sheep business was new to them. The ewes were supposed to be already bred to Cotswold bucks; but as it turned out, only about 70 lambs were born. These came about April, the wrong time of year for the small sheepman's best profit. Shropshire bucks will be used this season and continually hereafter to grade the flock up to that breed, since mutton lambs are his object. Mr. Heyward will probably breed so the lambs will come in December or January ready for the Easter suckling-lamb market, which pays the highest prices on account of the least competition from the big range men.

Buildings on the place sheltered the sheep last winter and can be used conveniently as lambing sheds by making little pens with small movable panels, and the lambs are thus not exposed to destructive weather. The lambs that came last April will be kept until May or June next year when the wethers will be sold. He believes there may be more money in it that way, but it is a question whether the extra weight and lower price he will receive per pound will justify feeding so long.

The lambs will possibly be sheared this fall, but more likely not until spring on account of the higher price per pound for year's staple.

Making sheep pay the living expenses on 40 acres while orchards are coming into bearing is the plan successfully worked out by A. Hey- This may work on Mr. Heyward's place on account of the somewhat gravelly soil and good drainage.

Besides alfalfa pasture, the sheep get all the alfalfa hay they can eat every day, fed in mangers at the barn. No grain or grain stubble has been available, but would probably have brought more rapid gain and made better mutton.

The ewes were sheared about lambing time last April; seven pounds of wool per ewe which sold at 20 cents, making the profit on the 100 ewes for one year $140 plus the 70 lambs.

Meanwhile the almonds and grapes are growing and soon the olives will be, too, and the family is living very comfortably.

More and Better Hogs for California.

[Written for Pacific Rural Press.]

SORGHUM—DRY FARM HOG FEED.

While the corn belt of the East has been leading the world on swine production because Indian corn is such good hog feed, they do not have it so much on California. Though Indian corn production is in its infancy in California and cannot be produced well on unirrigated land, there are several varieties of sorghum corns which make as good hog feed as Indian corn and yield well enough to be very profitable under dry farming conditions.

One man who is making a success on 40 acres which he can't irrigate and 20 acres which he can is A. H. Lewis of Willows. He claims to have threshed 12 sacks of white Egyptian corn per acre on the unirrigated part last year. This grain was planted April 25, after having simply disked the adobe land without plowing. It was drilled at the rate of nearly three pounds of seed per acre, in rows 40 inches apart and a good stand was secured 18 to 24 inches apart. Each kernel stools out in four to six stalks.

This year he figures that the whole acreage will average 15 sacks, though only two pounds of seed were used per acre. Since Egyptian corn shells out too freely, when nearly ripe, it is cut rather green and thrown into piles in the field to cure.

Last year's crop was sold on the market at $1.50 to $2.00 per sack, the lower price being due to the fact that some of it was not so plump as the other. It would have sold for considerably more in the form of intelligently fed pork.

A. J. Morey of Orland is a good example of an intelligent dairy manager. Though he has only high grade Jerseys now, he plans to go into purebreds. He weighs each milking and tests a mixed sample of the night's and morning's milk of each cow the first of each month; he knows what each cow is worth.

California Hog Book

By W. S. Guilford.

This new book, just issued, is what California swine breeders have wanted for years. Mr. Guilford, through his years of training under Prof. Carlysle, and his work since in Wisconsin and Idaho, and the last five years in California, is peculiarly well fitted to write this volume. Much of the matter contained in the book is from the practical side, gained in the East and on the author's hog ranch in Glenn county. Besides giving his own experience the author quotes from more than a score of California breeders, in giving their methods in feeding and handling hogs under local conditions.

TABLE OF CONTENTS

California Hog History, California Hog Growing Conditions, Description of the Hog, Judging and Selecting Hogs, Care of the Boar, Care of the Sow, Growing Pigs, California Hog Feeds, Feeding Suggestions, Hog Growing Systems, Hog Buildings, Appliances, Handling Hogs in Health and Disease, Profit in Hog Raising, Markets and Marketing, Value of Purebred Stock, Breeds, The Hog Breeder, Hog Breeding, Exhibiting Hogs, Home-made Pork Products.

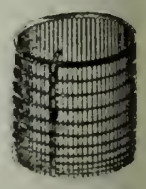
ILLUSTRATIONS.

The book contains 31 full-page half-tone engravings, and are the best that money could buy; besides these, there are 22 line drawings, giving plans for houses, appliances, etc.

The book is bound in cloth, contains 256 pages of text, and is well indexed. The feeding tables and values of foods are very full and of great value. We want to send a copy to you—every one of you swine breeders in California. Send us $2 and we will pay the postage and send you a copy by return mail.

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Water Troughs, Windmills, Frames, and Towers, Steel and Wood. Prices the lowest.
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A safe, speedy and positive cure. The safest, Best BLISTER ever used. Removes all bunches from Horses. Impossible to produce scar or blemish. Send for descriptive circulars.
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SAN FRANCISCO Los Angeles Portland, Oregon

Cow Testing in the Napa District.

To the Editor: The Napa-Sonoma Cow-Testing Association, with more than 900 cows signed up, will commence work September 15. The herds in this association are located in three counties but they are all within twenty-five miles of Napa. One hundred and seventy are located in Solano county near Vallejo, three hundred in the Sonoma Valley and adjoining hills and the remainder in the Napa Valley. Of the total number three hundred and seventy are in herds selling whole milk.

A new line of work is being undertaken in this association. During the first month, September 15th to October 15th, the tester will test such herds as wish it for tuberculosis by the intradermal method, in place of the regular butterfat and milk test. The whole purpose of this part of the work is to acquaint the dairymen with the tuberculosis test, that they may take measures to eliminate the disease. The owners of several hundred cows have already indicated their purpose of taking advantage of this opportunity. The only additional cost will be the wholesale price of the tuberculin.

The feeding conditions in this territory are exceedingly varied, running from home grown alfalfa hay and corn silage in the valley to nothing but range on the hills with almost continuous feeding of concentrates. Some dairymen make grain hay the basis of their winter feeding, others alfalfa.

The butterfat records will doubtless show what is now the most profitable feeding practice for these different conditions.

Mr. Hugh Asselstine of Humboldt county, a graduate of the Farm School at Davis, and formerly engaged in official testing, has been chosen from a large number of applicants, as tester for the coming year. **Paul I. Dougherty,**

Napa, Sept. 7. Asst. Farm Adviser

HIGH-CLASS BERKSHIRE BOAR COMES TO CALIFORNIA.

W. S. Guilford, author of our new "California Hog Book," informs us that Butte City Ranch at Butte City in Glenn Co. bought one of the best Berkshire boars sold in the sale of W. S. Corsa, the noted breeder at Whitehall, Ill., recently.

The boar purchased is Schoolmaster Premier 209275—an animal in which is combined the best blood of the Masterpiece and Lord Premier's Rival family on a Royal Empress foundation. He is sired by Schoolmaster 2d, one of the best sons of Masterpiece. There is already considerable of this blood in the Butte City Ranch herd. The sows closely related to this boar will be bred to a son of Improver B that is in service in the herd, and other herd boars, and Schoolmaster Premier is to be mated with other sows not so closely related.

Schoolmaster Premier is described as being very smooth, with an extra good head, good length and depth of body, good hams and good feet and legs. He was selected for Butte City Ranch by Mr. Geo. Martin of the Breeders' Gazette of Chicago, and was approved by Mr. Frank S. Springer, secretary of the American Berkshire Association.

BLACK LEG LOSSES SURELY PREVENTED by Cutter's Blackleg Pills. Low-priced, fresh, reliable; preferred by Western stockmen because they protect where other vaccines fail. Write for booklet and testimonials. 10-dose pkge. Blackleg Pills $1.00 50-dose pkge. Blackleg Pills 4.00 Use any injector, but Cutter's best. The superiority of Cutter products is due to over 15 years of specializing in vaccines and serums only. Insist on Cutter's. If unobtainable, order direct. THE CUTTER LABORATORY, Berkeley, California.

HORSE AND COLT SHOW AT RIO VISTA.

(Continued from page 265.)

next year. This prize was awarded to E. W. Westgate on a purebred. While there was a goodly showing of foals, about 15 in all, they were overbalanced somewhat, as will be noted by the total enumerations of the various classes represented, viz: 12 stallions, 65 mares, 10 geldings, 3 jacks, and 11 mules. Next year more colts will be shown because of the preparations that will be made farther in advance than was possible this year.

We have said this was essentially a "horse day," and so it was; but it could not be expected that all of the 1,500 people present would care to devote all of their time to the judging ring. For the benefit of those not interested, a fine program of aquatic sports was provided on the Sacramento River directly adjacent to the town. The evening was also given over to the river entertainment.

"Who," one inquired, "made this gala day possible?" Of course, the farmers brought in their horses, but who got the money?" Now, this is the gratifying part of the whole show, it seems to us, for the farmers got the money themselves, and what was more important, spent it themselves on things which were going to help farmers. Altogether, through public subscription and $500 from the Board of Supervisors, they raised over $1,200. This looks rather insignificant alongside of the thousands of dollars' worth of horseflesh which is annually produced in the surrounding country, and so it is, but it is certain that never was an equal sum spent for a better cause or purpose than for the still further improvement of Montezuma Hill drafters.

While every member of the County Farm Bureau, under whose auspices the show was held, deserves credit for his loyalty to the show, communities contemplating the holding of such shows must not forget that it takes leadership to accomplish big things, and in this Mr. E. W. Westgate and Messrs McCormick Bros., members of the Rio Vista unit furnished excellent material toward the practical carrying out of each detail.

Following are the awards as given by Prof. Rubel of Alameda County:

Purebred Percherons—Aged Stallions: 1st, Lucon, Perry Anderson; 2nd, Photo, P. Drouin & Co.

Two Year Old Stallions: 1st, Newbob, Rio Vista Horse Co

One Year Old Stallion: 1st, Rolph, Ruble Estate.

Aged Mares: 1st, Louise, Ruble Estate; 2nd, Bess, Perry Anderson.

Best Mare and Foal: Bess, Perry Anderson.

Belgian—Aged Stallions: Sultan de Villian, Drouin Co.

Shires—Aged Stallions: 1st, Boro Wedger, N. C. Anderson; 2nd, Severn Pilot, J. McCormick.

Three Years Old: 1st, Severn Donal, J. McCormick.

Two Years Old: 1st. Osborne Chief, E. W. Westgate.

Yearling Stallion: 1st, Osborne Prince, E. W. Westgate; 2nd, Severn Clyde, J. McCormick.

Best Stallion Foal: Osborn King, E. W. Westgate.

. Aged Mare: 1st, Boro Mayflower, E. W. Westgate; 2nd, Rio Vista Belle, J. McCormick.

Mules—Best Jack: Napoleon, P Anderson.

Best Three Year Old Mule: 1st, P. Anderson; 2nd, Dozier & Pressley.

Best Two Year Old Mule: 1st, Bronn Bros.; 2nd, Dozier & Press-

Best One Year Old Mule: 1st, P. Anderson; 2nd, Dozier & Pressley.

Best Mule Team: Lentholz Bros.

Grade Horses—Best Aged Mare: 1st, Blackie, N. C. Anderson; 2nd, Belle, P. Anderson.

Three Year Old Mare: 1st, Baby Doll, Tom McCormick; 2nd. Montezuma Queen, John McCormick.

Two Year Old Mare: 1st, Montezuma May, John McCormick; 2nd, Belle, Dan McCormick.

Yearling Mares: 1st, Beauty, Tom McCormick; 2nd, Dan McCormick.

Best Mare and Foal: 1st, Queen and foal, P. Anderson; 2nd, Bliss and foal, N. Anderson.

Best Foal either Sex: Neil Anderson.

. Best Three Year Old Gelding: 1st, Tom McCormick; 2nd, Alec Stewart.

Best Mare and Two of Her Get: Lambie Bros.

Three Best Animals Any Age or Sex: John McCormick.

Best Mare and Two of Her Get: E. W. Westgate.

Grand Champion Shire: Boro Wedger, N. Anderson.

Grand Champion Belgian: Sultan de Villian, Drouin Co.

Grand Champion Percheron: Lucon, P. Anderson.

. Grand Champion Foal: Shire colt, E. W. Westgate.

Best Draft Gelding: 1st, Rock, Tom McCormick: 2nd. John, Lambie Bros.

Grand Champion Mare: E. W. Westgate.

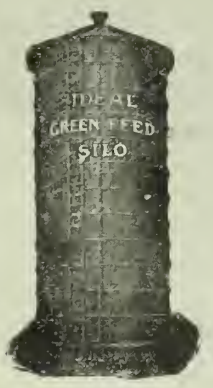
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Ideal Green Feed Silo

AND

Other Silos



IT DOESN'T TAKE AN EXPERT to tell the difference between an **Ideal Green Feed Silo** and some others.

ON THE CONTRARY, it is an easy matter if the prospective purchaser will remember that a silo to be of any value whatever must be "air and water-tight" and capable of producing good ensilage from every pound of good feed put into it.

IF HE WILL THEN TAKE FIVE MINUTES to compare:
The details of construction,
The quality of material and workmanship,
The contact of the doors with the door frame,
The kind and size of hoops and lugs used,
The quality of the paint for the inside,
The type of roof and whether or not it is fitted with a galvanized ventilator,
What provision, if any, is made for keeping the silo round and preventing its collapsing,
In fact, everything that enters into the design and construction of a silo that will make it a thoroughly practical piece of equipment,
He will then see the difference.

THE MAN WHO TAKES even the first step indicated in seeing for himself the difference between the **Ideal Green Feed Silo** and others does not put his money into any other, one time in a thousand.

THE COMPARATIVELY FEW BUYERS of other silos are those who merely read printed claims, or listen to the argument of some self-styled "advisor" who is probably working for a commission only and whose sole purpose is primarily to sell a bill of lumber.

THE WISE BUYER OF A SILO today does see the difference when buying his first silo while the unwise or careless one usually finds that his presumed saving in first cost actually means a loss to him in spoiled feed and **represents the difference between success and failure in the use of a silo.**

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Including Complete Equipment. And by attaching a ½ H. P. Electric Motor or a 1 H. P. engine, you can milk at the rate of **15 TO 18 COWS PER HOUR.** and keep a record of each cow's milk.
Any time you want to reduce the milking time, add another unit at a cost of $50.

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The Hinman is the only machine that absolutely breaks the vacuum after each draft of milk, giving the same release as hand-milking.
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Hopland Shorthorns

Hopland Berkshires

All Stock Registered.
Bulls of Highest Quality.
YOUNG SOWS AND BOARS
of finest
Breeding and Type.
Prices on Application.

HOPLAND STOCK FARM
HOPLAND, CAL.

With the Live Stock Men.

DAIRYING.

Van Tiger of Live Oak is building a new 30x36 calf and bull barn.

W. H. Olson, a dairyman of Ohio, recently purchased the J. W. Considine Woodland stock farm.

Frederickson & Donaldson of Biggs are moving their herd of dairy cows to their new ranch near Woodland.

Samuel Pedrotti of Napa has leased for a period of five years the Frank Whitlach dairy ranch near Penngrove.

During the month of August, eight cows in the Gridley Cow Testing Association made fifty or more pounds butterfat.

The California Central Creameries Company is planning the construction of a new plant at Riverdale, Fresno county.

T. E. Posee of Biggs is running a small nursery with his dairy. He has two registered Holsteins and wishes he had more.

One dairyman near Gridley said hay was too high-priced to feed to cows. He is not a member of the Cow Testing Association.

H. E. Wickman has just erected a 70-ton silo on his ranch near Gridley. He will rebuild the barn that burned down a few weeks ago.

S. A. Mealey is building on his 100-acre ranch south of Gridley a cow barn 56x64 with a 16-foot shed. There will be stanchions for 44 cows.

A new barn is being erected on A. Harvey's ranch near East Biggs. It has stanchions for 18 cows on one side and horses on the other, with the haymow in the center.

The August report of the Stanislaus Cow Testing Association shows that 1395 cows were tested during the past month, 86 of them reaching 1.50 pounds butterfat daily.

King of the Pontiacs 14th, owned by the Stanford Ranch at Vina, weighs 2600 pounds and is four years old. His oldest daughters will soon begin to freshen, and are a very promising lot.

Farmers in the southern part of San Joaquin county are organizing an association for the purpose of pooling their cream and offering the entire output to the creamery that will pay them the best price.

The Butte Valley Land Company, with holdings amounting to about 25,000 acres in Siskiyou county, are planning a large creamery at Macdoel. They also plan to subdivide their land into 160-acre tracts for dairying purposes.

Seabell's Governor now stands at the head of T. J. Baltimore's Guernsey herd at Gridley. He has a five-year-old daughter, two granddaughters, and one great-granddaughter of Governor of The Cbene, the greatest bull of the Guernsey breed.

A. B. Humphreys, of Mayhews, will have the new home for his Guernseys completed by the 1st of January. Already three barns, concrete silo, and house have been finished. The milking barn and milk house have their foundations laid.

McBride & Son of Los Molinos have erected a 50-ton silo on their ranch and are now filling it. They are getting started in Holsteins. At present they have 11 registered animals, and are planning to attend the sale at Sacramento to buy a few more.

There is talk of a West Side Cow Testing Association to include the districts around Newman, Patterson, and Crows Landing. C. A. Starkweather and others will address a meeting of the Farm Bureau the last of this month at Patterson. They will organize if 800 cows are signed up.

Kisser Bros. of Biggs are erecting an 18x38 silo this fall. They are members of the Gridley Cow Testing Association, and say it is the best investment they have ever made. Their herd of about 70 cows will average for the year over 300 pounds butterfat per cow. One cow made 415 pounds butterfat in 10 months.

E. Wyndham of Redding has four registered Ayrshire females and three registered bulls. His herd bull's dam produced 10,000 pounds milk in one year and his grand dam, 12,000 pounds. Mr. Wyndham finds that the half and three-quarter blood Ayrshire cows are much better rustlers than the common bred cows.

Geo. W. Wendt, who has charge of the dairy department of the Stanford Ranch at Vina, states that they now have 301 registered Holsteins on the ranch. All the increase will be kept to enlarge the herd. The bulls are being used on the range cows, and it has been found that this makes a very satisfactory range animal.

Stanislaus county dairymen have been receiving circulars from the Dairy Bureau in regard to cooling, sterilizing, and production of clean milk. These circulars were sent in June to West Side dairymen; and, according to Inspector C. A. Starkweather, within a month the creameries reported 25 to 50 per cent improvement in the cream. A very sanitary cooler protected against flies costs about $11.

E. F. Young of Modesto says he is always going to have corn to put in his silo. He tried oats last year; the silage kept all right, but the cows did not keep up on their milk flow as well as when corn silage was fed. He cut the oats when they were in the dough. He says also that when watering the silage, always run the stream into the blower and not direct into the silo. The moisture is distributed better the first way.

HORSES AND SWINE.

England has purchased thus far 1880 mules in California.

C. E. Barrows of Los Molinos exhibited his show herd at the Redding Fair.

B. M. Mitchell of Oakdale recently shipped a car of fat hogs to the San Francisco markets.

T. R. Nickalls of Los Molinos has found that raising purebred Berkshires for the block pays.

O. G. Nelson has rented the Brothers' place near Chowchilla and will engage in purebred Durocs.

The Pure Gold Stock Farm, of Elk Grove, plans to take their show herd of Berkshires to the Exposition.

N. M. Lester of Gridley sold to Mack & Ingle of Imperial county four registered Poland-China sows for $153.

To reduce the cost of raising purebreds, H. Ward and B. S. Brothers of Chowchilla use the same boar in partnership.

G. L. Stearns, formerly of the Stanford Vina Ranch, now has charge of the Meadowbrook Stock Farm swine near Merced.

Walter Logan of Redding is building up a herd of registered Poland-Chinas. He expects to enter quite extensively in the breeding business.

A. L. Stevens who lives near Los Molinos has a very fine start in Berkshires. He expects to increase the number of his breeding sows to 20.

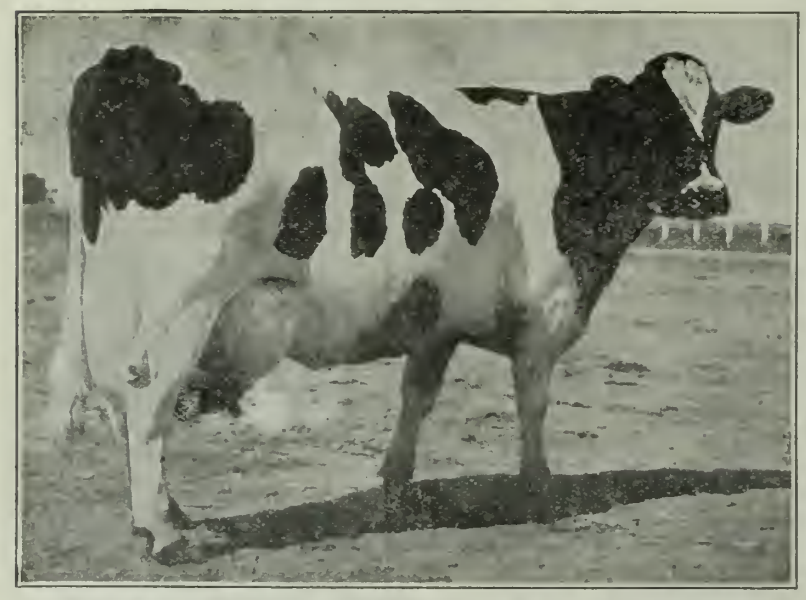
John P. Daggs of Modesto recently shipped two Duroc-Jersey hogs to C. G. Clay, Merced; two to F. E. Stevens, Lincoln; and one to H. J. Hoyt, Hanford.

Merced county has a hog cholera quarantine law and a livestock inspector, Dr. L. C. Kennon, who enforces it in spite of threats that he will be shot.

Peter Seh of Palo Cedro has four daughters of Robins Ruby, grand champion Poland-China sow at the 1914 State Fair. Robins Ruby is owned by F. W. White of Elk Grove.

Henry Webb of Madera has about 80 summer pigs almost purebred Durocs. They are lively beauties, but he wishes he could sell them for breeders' prices rather than for pork.

A four-year-old mule belonging to Dan Sullivan near Weed, Siskiyou



ANSELMO CRANE—One of the good cows that Morris & Sons are to sell at Sacramento in the October Holstein sale.. She has a record of 608 lbs. butter in a year at 4 years. She is sired by Anselmo, the sire of a 29-lb. 4-year-old, and several others above 24 lbs.

FOR SALE

8 choice, registered tuberculin-tested

Short Horn Bulls

Aged 18 to 25 months.
Also 5 aged 8 to 13 months.

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stands for Economical production. More profit from every pound of feed. Do you want cows that will improve your Dairy? Write for free literature.
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175 High Class Registered Holstein Friesian Cattle

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Greatest in number of high record cows!
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Bred to the greatest milk-bred bulls in the world!—including sons of cows that hold every World's milk record from 7 days to 3 years.
Greatest bred and greatest show bulls in the World!
Greatest in respect to individuality—growth and conformation.

All at Your Own Price

For catalog write:

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JAMES W. McALISTER, JR., Chino,
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COL. B. A. RHOADES, Los Angeles,
Auctioneer.

county, recently gave birth to a horse colt; it is stated that the owner has refused $1000 for the mare and colt.

Chas. Gatewood of Fresno reports the sale of the Poland-China boar, Fresno King 75142, and two registered bred sows, all eastern bred stock of the large type, to T. G. Boam of Kerman.

A report from Kansas City, Mo., states that during the last two months agents for the British government have purchased over 15,000 pack mules there, some of the animals being more than 15 years old.

H. R. McCoy of Los Molinos has 80 head of hogs and is growing them on six acres of alfalfa and the skim milk from 11 cows. He expects to go into the purebred Berkshire business on an extensive scale.

E. J. Robinson of Oroville killed for his own use two registered Tamworth nine-months-old pigs that weighed 350 pounds each. One ham weighed 25 pounds; and from the two hogs they secured 30 gallons of lard.

J. W. Mills, Farm Adviser of Solano county, reports that a truly live Pig Club was formed at Vacaville on Sept. 1, and the Dixon Pig Club members were enthused to the extent of showing interest in the trip East.

E. W. Williams of Fairmead recently started in registered hogs on the advice of Farm Adviser T. C. Mayhews. He bought a boar and sow pig last Christmas, and now has seven little ones. He will replace his scrubs with purebreds as soon as possible.

The Madera County Swine Breeders' Association is in the process of formation, to secure co-operation in making hog cholera quarantine laws and enforcing them. Local inspectors will report all outbreaks and all members will placard their places.

A campaign against hog cholera will be carried on in Stanislaus county from Sept. 17 to 30 by Dr. Cady of the University of California, assisted by County Farm Adviser Conner. Meetings and demonstration lectures will be held at the various branches of the Farm Bureau.

Roy J. Turner of Trowbridge, Sutter county, is starting in the Poland-China business right. His herd boar and three sows were secured from the best herd in Texas. This promising young boar is a direct descendant of the famous Master Meddler. The get of this animal is showing up true to the breeding.

Hawley Bros. of Madera intend to go into purebred hogs. Though they have a purebred Poland-China boar, they will attempt to get their local branch of the swine breeders' association to adopt one breed for all members, and the Hawleys will go into that breed for the sake of community effort and advertising.

The Dunham-McLaughlin Company have just received from the East a carload of registered Percherons to fill their classes at the Panama-Pacific Exposition Horse Show. Among these are Turquoise, a yearling filly that won the grand championship and first prize in open class at the Ohio Fair and a two-year-old filly, Futurity, winner in 1914.

H. B. Thornberry of Stockton recently sold to Mrs. Anita Baldwin one registered jack, 23 registered jennets, with 3 young jacks. Mrs. Baldwin is showing the jack and three of the jennets at the Panama-Pacific Exposition. The jack as a two-year-old won over jacks of all ages at Lexington, Ky., defeating the one that won grand champion the same year at the State Fair.

H. Ward of Chowchilla has a fine bunch of purebred Duroc shoats and a lot more just coming. He paid $50 in May, 1914, for an 8-months sow. From her pigs he has sold $125 worth, and has 8 left of her second litter which are six months old, and another litter farrowed Sept. 16. Of her first litter he reserved two sows which have 18 pigs. "Couldn't do that with scrubs," says he.

CATTLE AND SHEEP.

It is estimated that 109,692,264 sheep were shorn last season in Australia and New Zealand.

Thos. Anderson of Anderson is building up a small herd of purebred Shorthorns. Later he expects to secure a number of registered Shropshires.

M. F. Pimentel of Fowler raised 22 lambs from 25 thin, old ewes bought less than a year ago. He sold 11 lambs last May for $59.65, besides $40.10 worth of wool from the ewes.

From a flock of 35 ewes, Walter Allen of Lincoln sold the fleece for $56; 28 lambs for $156.80, and kept 7 lambs for breeding stock. The lambs were dropped in January and sold in June.

Miller & Lux have rented several hundred acres of beet land near Chualar, Monterey county, where they will fatten several thousand head of cattle this coming fall on beet tops and pulp.

G. W. Williams of Fairmead was disappointed last week by the absence of the sheep article we had promised. He intends to get a big band on pasture on adjacent stubble fields and neglected lands.

S. W. Cheyney uses a bunch of 60 ewes as scavengers on his 2000-acre ranch south of Chico. They clean up the fence rows, ditch banks, deriving most of their living from what would naturally go to waste on most ranches.

J. R. Pretzer of Fairmead says you can't get a lamb in that country to weigh 60 pounds at six months, but G. W. Baxter who lives not far away says he sold 15 last April aged two and three months, which weighed 840 pounds. Mr. Pretzer's lambs must have been the wrong breed.

A queer disease recently caused the death of five cattle on the ranch of Robert McGrath near Marysville. The affected animals were seized with an uncontrollable itching. As

(Continued on page 282.)



You're not afraid of new harness breaking. Well, harness that has been in service for years will stand the strain too, if you treat it occasionally with

EUREKA HARNESS OIL

That's because certain oils in Eureka are great leather preservatives. They nourish and lubricate the fibre, keep out dust, sweat and moisture, and preserve the original life, strength and elasticity of straps, tugs, breechings, etc. It pays to use it. Arrange with your harness man to dip your harness. Or apply it yourself by hand. Make your harness last longer. Dealers everywhere.

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And Get Started Right!

A great selection to choose from:

Cows with records as high as 29.90 lbs. butter in 7 days made as a 4-year-old.

Daughters of cows with records as high as 30 lbs., 29.90 lbs., 24.45 lbs.; as a 3-year-old, 24.45 lbs.; as 4-year-old, 22.50 lbs.

Daughters and granddaughters of great sires, including 15 daughters of Colantha Sir Pontiac Aaggie—best bred son of the great sire Colantha Johanna Lad, granddaughters of Pontiac Hengeveld Parthenia and others of equal note.

Bred to many of the greatest sires in the West. Their calves will be worth more than the dams bring.

And about 20 high class young males, many of which are ready for service.

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Veterinary Queries and Replies.

[Answered by Dr. H. B. Wintringham, Petaluma, Cal.]

DEHORNING AND DRYING COWS.

To the Editor: When is the best time to have my cows dehorned, and what shall I put on them? I would also like to know what is the best method of drying up a heavy milking cow.—E. B., Hughson.

[It is safe to dehorn at any time of the year, providing one is careful in this operation. A common meat saw is as good an instrument as any to use; and after dehorning, apply stockholm tar to the stumps of the horns. One or two applications are all that are necessary at the worst time of the year.

In drying up a cow, it is essential to leave a small quantity of milk in a gland, but not enough to cause caking of the udder. Gradually take less and less out each milking. The application of spirits of camphor rubbed in well on the udder helps to decrease the activity of the gland.]

INFLAMMATION OF THE UTERUS.

To the Editor: I have a cow that calved on June 29th on time. At the time of calving she seemed in good health, was in good flesh, and came in with a good milk flow. But she began failing in milk and flesh soon after calving, and in the last month has been rather stiff in her legs; in the last ten days she has contracted a cough. I have not done anything for her except to douche her out three times just after calving. I have not bred her though I think she would have taken about a week ago. Am only feeding dry alfalfa hay. Any treatment you can suggest will be very much appreciated. The douche I used was 2 tablespoonfuls of lisol to a gallon of water.—S. L. W., Hughson.

[This is chronic inflammation of the uterus, and it is very doubtful if any line of treatment will give benefit. You might try iron sulphate in two drachm doses twice a day and douche with mild antiseptics in a warm solution once a day.]

ROUP.

To the Editor: My chickens are troubled with some disease on their heads. Their eyes swell and run water, and in a week or two they shut. My little chickens seem to have it worse than the big ones. Is it contagious? Several of my month-old chicks get sick and die in a few days. They open up their mouths wide for breath, and I noticed the other day that they have big, white sores on their tongues. Please let me know what the trouble is and what to do for them.

[This is roup. Wash out the false membranes with a strong solution of soda bicarbonate, then paint the raw surfaces with Lugall's solution of iodine. Separate immediately all the sick from the healthy chickens. Look to your houses and see that there are no drafts, but good ventilation.]

LUMPY TEATS.

To the Editor: My cow has had two small lumps in one of her front teats for some time. I have treated her for mammitis. She seems in good health, but the lumps remain the same, neither growing nor diminishing. Only once I got a slight discoloration from this teat in the milk and I have since milked that teat into a separate pail. There has been no apparent difference in this milk from the rest. Is it fit for the six months old calf's use? I have not quite dared use it myself. We are feeding the cow the University Farm's ration of beet pulp, cocoanut meal and rolled barley, with alfalfa hay.—H. F. C., Ben Lomond.

[Have a veterinarian operate, removing the tumors inside of the teats.]

DEPRAVED APPETITE.

To the Editor: Can you tell me what to do for our cow? She eats hearty, but is a string sucker. Is it all right to use her milk?—P. M. S., Fullerton.

To the Editor: I have a cow that has a very peculiar habit. Whenever she manages to get loose in the stable she licks the stable floor with her tongue. She gets plenty of salt and has a salt stone. What can be the matter?—A. N., Hayward.

[These are cases of pica or depraved appetite. Place in separate containers the following substances and allow the cows free access to them: Iron sulphate, powdered sulphate, black antimony, salt, and saltpeter.]

ABORTION.

To the Editor: I fed my cows grape pomace after they had tested free from abortion, but one aborted a week after eating the pomace. The veterinarian still insisted it was not contagious abortion. The cow is 7 months along with another calf. Did some action of the grape seeds cause her to abort?—H. B., Modesto.

[This is very probably not contagious abortion. Any sudden change of feed substances when taken in large quantities will cause sporadic abortion. In changing feeds, do so gradually and this trouble will be eliminated.]

HARD MILKER.

To the Editor: My heifer is two years old and has been giving milk four months. One teat has been hard to milk, but lately she has been very hard to milk in the one teat and it seems that it is growing up. The milk is very hard to start and it comes out in a spray—indications of closing up. Will you tell me what to do? Would it be wise to open up the teat?—J. H. S., Boulder Creek.

[Get some teat plugs and insert, leaving in between milkings. Be sure you sterilize these plugs by boiling before insertion each time.]

COW HAS BLOODY DISCHARGE.

To the Editor: My heifer had one calf born in December. From that time she came in every 21 days and was bred each time until April 2. Since that time there has been a bloody discharge about once a month. Any information regarding cause and treatment will be appreciated; also let me know if you think she is with calf.—Mrs. A. J. S., Turlock.

[Douche this cow once a day with a warm solution of potassium permanganate, one drachm to the gallon of water.]

GLANDERS, PERHAPS.

To the Editor: I have a mare who seems to have a running at the nose continually, sometimes very thick. At present she is on pasture; in the barn in winter. What can I do to stop it?—J. E. S., Santa Rosa.

[Have this mare tested for glanders immediately. If she reacts, destroy her as the condition is very dangerous and communicable to the human.]

MAY BE TUBERCULOSIS.

To the Editor: I have a New Zealand doe which has a very troublesome cough. Do rabbits have tuberculosis? She is large for her age—five months—and has a very good appetite. I have been feeding her green alfalfa, rolled barley, dry bread, etc.—R. S., Fresno.

[Have this rabbit tested for tuberculosis by the intradermal method. Some competent veterinarian can do this for you.]



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We will sell KING SEGIS PONTIAC EMPEROR, one of the greatest bred bulls living today, and several other young bulls fit to head any herd in the world, including:

A son of SEGIS PONTIAC DE KOL BURKE, out of the highest record daughter of DE KOL BURKE (7 thirty-pound daughters), 32.76 lbs. at 4 yrs. 1 mo. Dam and sire's dam average 32.52 in 7 days and 125.36 in 30 days.

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A son of SEGIS PONTIAC DE KOL BURKE, out of MISS BLANEY, 27.60 lbs. in 7 days and 1008 lbs. in one year. Dam and sire's dam average 29.95 in 7 days and 1047 lbs. in a year.

In every respect the best lot of young bulls that have ever gone out from our herd—THE RIGHT BREEDING—THE RIGHT TYPE—backed by VERY LARGE RECORDS in both short and long time tests—the kind that will add prestige to your herd and sell your surplus stock at top prices.

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Breed From Prolific Hogs.

To the Editor: I see an article in which the writer is telling the opportunities in the hog business, in which he says, "at the conservative rate of three litters from one sow every two years." I have 5 Duroc sows to farrow their third litter since Oct. 10, 1914, between Sept. 10 and 20, 1915. West Hope, the best one, farrowed 13 pigs Oct. 22, 1914, and raised 8. April 5, 1915, she farrowed 13 more and raised 10. She is due to farrow again Sept. 12, which is 41 days less than 12 months from the first to the third litters.—R. J. Ross, Modesto.

[Go to it, Mr. Ross; if you can get thrifty, vigorous pigs and keep your sows in good condition at that rate, we would advise you to register your pigs and build up a strain of such prolificacy and vigor that by advertising them you can beat the State. We believe in using those animals for breeding from which you can raise the largest litters of properly formed pigs without too much damage to themselves or to the pigs.

This is the practice of F. W. White of Elk Grove, who does not aim to let go of sows which raise good litters. His Berkshire, Robins Ruby, has raised eight of each of her past two litters, and her daughter Ruby Lee 6th, has eight beauties now as her first litter. Harry Chamberlin of Live Oak has a sow which has had 12 pigs in each of her past three litters. L. F. Killenbeck, who breeds registered O I C hogs at Orland, has one sow that farrowed 12 pigs in her first litter, then 9, then 15, then 10, then 18, but he kills off all but 10. Chas. Goodman, Berkshire breeder of Williams, notes that sows often alternate between big litters and smaller ones.

It is a question, however, on general principles, whether it is best to breed for a strain of hogs that will average more than ten pigs per litter, since it often happens that there are not enough teats for more and the rest get stunted. Even if they don't, the drain of more pigs on a sows vitality is likely to be too severe to enable her to raise two good litters per year.

It is also a question whether even two litters a year are as profitable as three every two years. E. C. Rand, purebred Berkshire breeder of Santa Rosa, believes there is too much strain on the sow and slower development of the pigs, when bred oftener than three times in two years, though we know breeders throughout the State who raise about two litters a year, though not many have accurately determined its full effect.

Your sow carrying two litters of pigs in a year and suckling three is certainly outdoing most sows, but how are the pigs, how long can she keep it up, and what is your system of feeding?—Editors.]

ALFALFA ON WHITE ALKALI

[Written for Pacific Rural Press.]

A man with an imagination is Mr. Tweed of the Tweed Ranch and Land Company of Willows who settled on a large farm in a country which had been cropped to grain so many years that it produced nothing and had long been unplowed. Much of the same land was deemed worthless on account of alkali, but Mr. Tweed had been in the vineyard business with Theo. Kearny of Fresno county and had seen spotted vineyards in which acres had been killed out by alkali.

It was one morning during the discouraging days of 1896, when raisins could not be sold at living prices, that Mr. Kearney said to him, "Tweed, you can have the use of these four or five hundred acres of vineyard if you pay the taxes and the water bills." "I don't want it," said Mr. Tweed.

Forthwith Mr. Kearny pulled out the vines and put the land into alfalfa. It was difficult getting a stand of alfalfa on the alkali places, but Mr. Tweed vouches for the fact that the second year there was a perfect stand.

With this experience in mind, he moved to the forsaken alkali-spotted, worn-out grain land of his present location and planted alfalfa. Last winter on account of lack of adequate drainage, the alfalfa drowned out; but since there is first-class drainage there, Mr. Tweed is leveling 180 acres for alfalfa alone.

To irrigate this, his present pumping system from three connected shallow wells not over 50 feet deep will be insufficient. He is already finding trouble to irrigate the 100 acres of rice.

Motor Pumps from Four Wells.—His 35 h.p. electric motor is easily capable of handling far more water than is available from the three wells, so he is putting down one which will give at least 300 feet to where his well-driller believes there is artesian water. This he expects to be enough to irrigate the whole 1280 acres of silt land on the farm.

The water is pumped into a reservoir covering about an acre on the high point of the place and will be distributed through ditches which are built on the contours deep enough so that they may be used for drainage ditches in the winter time and high enough so that they may be used for irrigation in the summer. A big drainage ditch through the center of the 180 acres will take the water from these small ones.

The alfalfa will be inoculated with Westrobac bacteria to give it a start under its rather difficult location in the alkali.

Poland China Pigs

LARGE AND MEDIUM TYPE

A Wonder and Giantess Stock.

Prize-Winners of either type. Several very fine young boars and a few bred sows for sale.

We guarantee to please or refund your money.

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Our herd is Cholera Immune, the only Immune Berkshire herd in the State.

Five herd boars in use and they are second to none on the coast. Our sows are of equal merit.

We have at present some 300 Berkshires and we know that we can supply what you want.

Write Us or Call.

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At Prices within Reach of Every Breeder and Dairyman.



A Grandson of Tilly Alcartra.

We have several splendid grandsons of this now famous cow which we can deliver to you at prices which will suit the pocketbooks of every dairyman wishing to improve the quality of his herd, whether it be a grade or pure-bred herd. These bulls are sired by our herd bull, Prince Alcartra Korndyke and out of A. R. O. cows, and are the only living grandsons of a cow having a record of over 30,000 pounds of milk in a year. Such an opportunity for increasing production has never been offered DAIRYMEN AND BREEDERS in California, price and quality considered. Buy one of these bulls and solve your low production problem. Write

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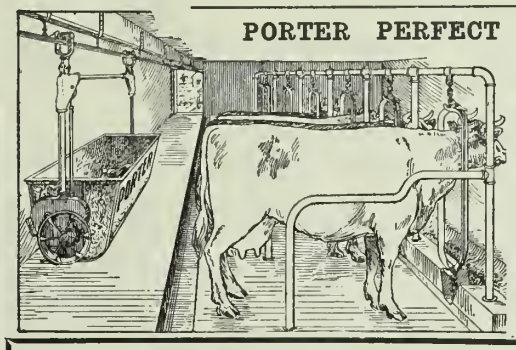
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Shropshires sired by rams imported by me from England in 1911.



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OUR FLOCK HEADERS ARE:

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Animal Food Dept., 704 Townsend St., San Francisco, Cal.

WITH THE LIVESTOCK MEN.

(Continued from page 279.)

the disease progressed, the animals sought relief by rubbing their bodies against buildings and fences so that the flesh became rubbed off to the bone. The local stockmen fear the disease will spread and have called for assistance from State Veterinarian Keane.

H. E. Coyle of Woodland is starting in the breeding of purebred Hereford cattle on quite an extensive scale, having purchased the 30 females and bull from the Simon-Newman herd of Newman, some months ago. Mr. Coyle has 620 acres a few miles north of Woodland and has erected two stave silos, expecting to feed his purebred stock alfalfa hay and corn silage. He states that he is finding the demand heavy for good range bulls, and expects to experience no difficulty in selling the young stock as soon as old enough for breeding purposes.

The Iowa State Fair of 1915 has just passed into history as the greatest State Fair regarding livestock that has ever been held on the American continent. The attendance during the week crossed the quarter of a million mark. This fair was more or less of a feeler in regard to what the other state fairs might expect this year. Many of the stockmen of the Middle West knew that the foot and mouth disease was absolutely under Federal control and that there was no reason whatever to fear that another outbreak such as took place in this country a year ago would occur. The recent outbreak in the State of Illinois in a few of the northern counties was traced to the use of impure hog cholera serum. These counties are now under Federal control and the disease now is where there is no danger of its getting loose. At the recent Iowa Fair there were nearly 300 Shorthorns, better than 200 Herefords, and as many Aberdeen Angus; and the other breeds of livestock carried the same proportion of exhibits as the beef breeds. The states represented at the Iowa State Fair reached from Ohio to Nebraska and from Mississippi to the British line. This alone shows the great confidence the breeders have in our Federal authorities taking care of the dreaded foot and mouth disease.

MISCELLANEOUS.

Receipts at the Portland Union Stock Yards for the week ending Sept. 7 were: Cattle, 1098; Hogs, 2248; and Sheep, 460.

Jason Warren of Gridley believes in diversified farming: cows, hogs, chickens, and fruit; he says the pocket book keeps in better condition this way.

The Livermore Center of the Alameda County Farm Bureau is preparing for a combined land product and stock show to be held Saturday, Oct. 9.

Geo. Plummer of Fair Oaks says he is going to buy some purebred Berkshire sows this fall and start in the hog business right. He has a very fine boar which he purchased from the Pure Gold Stock Farm.

A corporation known as the Kings County Land & Cattle Company has recently been formed in Corcoran. They have purchased 3054 acres near there and will devote it to dairying and raising alfalfa hogs.

Farm Adviser W. H. Heilman of Glenn county reports that the organization of livestock industries in his county is progressing with interest. A report from the Oriand Center district indicates a hog census of 3390 and a dairy census of 2820.

Such success has been attained by the management of the packing plant of the Anaheim Beef & Provision Company since its opening three months ago, that arrangements are now being made to enlarge the quarters.

M. T. Kite of Redding sold all of his grade goats, 300 in number, to Tork of Manton. This leaves him with a band of 54 registered Angoras. He states that they shear from 3 to 4 pounds of mohair which is worth this year between 30 and 40 cents a pound.

The owner of the Hawkeye Hatchery of Tulare is preparing to make additions to the plant that will have a capacity of 30,000 chicks per month.

Chas. Raines of Folsom will be numbered among the exhibitors from Sacramento county at the Exposition poultry show in November. He will make an extensive entry of his prize strain Anconas.

ALMOND PRICES ANNOUNCED.

The annual meeting of the California Almond Growers' Exchange was held September 11 at the offices in San Francisco, and the following directors and officers were elected for the ensuing year: Geo. W. Pierce, Davis, president; A. S. Lasell, Lodi, vice-president; J. B. Wrangham, Fairoaks, secretary; and the directors are Geo. W. Pierce, Davis; A. S. Lasell, Lodi; John Trembath, Antioch; E. S. Norton, Sutter City, and R. Lauppe, Antelope.

Three growers have withdrawn since the last crop, and a total of 291 growers have signed up since the 1914 annual meeting. Total Exchange membership is now 908.

The financial condition was especially pleasing as the Secretary reported comfortable surplus balances on hand, ample to care for the present requirements.

The following prices have been set by the Exchange: Nonpareil, 15c; IXL, 13½c; Ne Plus Uutra, 13c; and Drake, 11c.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

DAIRY CATTLE.

DISPERSION SALE OF HOLSTEIN HERD—52 Head of Registered Holstein-Friesians—26 cows of excellent blood lines of high record cows. 4 heifers, 2 year olds, bred. 10 heifers, four to fourteen months old. 6 service bulls of best families. 6 bull calves, one to ten months old. The sire of this herd is **Artis Pontiac Tekstra**, a grandson of **King of the Pontiacs**, also, a grandson of **Pontiac Artis**, one of the best of 116 A. R. O. daughters of Hengerveld De Kol. Prices on application.

350 Head of Grade Holsteins—250 cows, $75 to $125. 60 heifers, two years old, $65 and up. 40 heifers, five months to one year. The cows and heifers are bred to Holstein-Friesian bulls of the best families. Miller & Lux, Inc., Dos Palos, Cal.

INCREASE QUANTITY AND IMPROVE QUALITY of your milk by using a Guernsey Sire. We can furnish choice imported or home-bred bulls from big record cows at attractive prices. **Imp. Itchen May King 25174**, the best living May Rose bull, heads the herd. See him and his calves at San Francisco Exposition. Come and see our Guernseys, or send for price list. **Edgemoor Farm**, Santee, California. Walter H. Dupee, Proprietor.

REG. HOLSTEINS—We offer choice grandsons of King Segis, also grandsons of the world's record cow, Creamelle Vale; blood that increases the value to your herd. Write or call and see our herd. F. H. Stenzel, San Lorenzo, Cal.

FOR SALE—Four registered Guerneseys. Two imported cows 6 years old. One bull calf 5 months old from one of these cows. One bull two years old—champion Minnesota State Fair at six months old. E. M. Smith, Delano, Cal., R. D.

WANTED—From 6 to 12 head good, well-bred Holstein-Friesian heifers, from 16 months to 3 years old. Those that have already been bred to some choice bull preferred. Beckstead Mercantile Co., Fallon, Nevada.

REGISTERED HOLSTEIN COWS and heifers bred to Colantha Sir Pontiac Aaggie for sale. Also bull calf by him from a 24-lb. cow. K W. Abbott, Milpitas, Cal.

HOLSTEIN BULLS—Pure-bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

FOR SALE—About 60 head of fine dairy heifers from 6 month to 2½ years old. Grade Jersey and Holstein. J. S. Smith, 226 Alameda Ave., San Jose, Cal.

REGISTERED HOLSTEINS—Young bulls sired by King of Riverside and Lakeside Model Prince from A. B. O. fame. J. B. Harlan Co., Woodland.

FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

AYRSHIRES—For sale, fine young bulls from imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

THREE REGISTERED JERSEY BULLS—Dams big producers. Sires dam 691 lbs. butter cow. Prices right. C. D. Hayworth, Modesto, Cal.

REG. GUERNSEY BULLS for sale. Grapewild Farm, Mayhews, Sacramento county, Cal. A. B. Humphrey, Prop., P. O. Box P.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class, thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

28 SPRING HOLSTEIN HEIFERS and Registered Bull. Fine Milk Strain. $1900 takes them. E. H. Weeh, Escondido, Cal.

REGISTERED HOLSTEIN BULLS—Serviceable age. From finest strains. Panama Pacific Dairy, Sutter Creek, Cal.

JOHN LYNCH, breeder of Registered Shorthorns. Milk strain choice. Young stock for sale Box 321, Petaluma, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

SUNNYBROOK RANCH, WILLITS, CAL.—Breeders Registered Holstein Stock. Young bulls for sale ready for service. Sired by De Kol Fobes Homestead 6th. Prices reasonable.

HOLSTEIN-FRIESIAN CATTLE and Berkshire Hogs. H. S. Goecken, Breeder, Goecken Heights, Livermore, Cal.

REG. JERSEYS—Herd established 1868. Young bulls from best cows. Ranch Dos Rios, R. 2, Modesto.

REGISTERED HOLSTEINS -A. W. MORRIS & SONS, Corp., Importers and Breeders, Woodland, Cal.

REGISTERED HOLSTEIN BULLS from A. R. O. dams. J. W. Benoit, R. 2, Modesto, Cal.

REGISTERED JERSEY BULLS from register of merit cows D. F. Conant, R. 5, Modesto.

CREAM CUP HERD—Registered Holsteins Pontiac bull calves. M. Holdridge, Modesto, Cal.

REGISTERED JERSEY CATTLE—Young stock for sale. W. J. Hackett, Breeder, Ceres, Cal.

PALENDALE HERD of Reg. Holsteins. Young bulls for sale. J. A. Pelanda, Salida, Cal.

SUNNYSIDE HERD—Registered Holstein cattle. R. F Guerin, R. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma.

A. R. O. REGISTERED HOLSTEIN BULLS for sale. Millbrae Dairy, Millbrae, Cal.

BREEDERS OF REGISTERED HOLSTEIN CATTLE—McAllister & Son, Chino, Cal.

BREEDER of Registered Holstein Cattle. Ernest Otto McClure, R. 2, Modesto, Cal.

REGISTERED JERSEY BULL two years old. Gentle. O. J. Ames, Oakdale, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto.

LINWOOD FARM—Registered Holsteins and Imported Guernseys, Santa Cruz, Cal.

REGISTER OF MERIT Jersey Bulls. $75 and up. Murray & Jones, Ceres.

REGISTERED HOLSTEINS—Golden West Herd. D. & H. Rowles, Modesto.

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MISCELLANEOUS

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Farm Poultry for Profit.

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

CATERING TO THE MARKET IS PROFITABLE.

During last year there has been quite a little feeling among poultrymen of the southern part of the State on account of what they term favoritism for outside egs. Petaluma eggs are brought into Los Angeles and sold at a higher price than fresh local eggs. And a lot of these eggs that command a higher price are not Petaluma's select eggs either, though they are sold as such by some store keepers. But that has little to do with the question. What we want to know is why eggs that are brought in a distance of over 500 miles command a better price than the product that is produced within a radius of fifty or seventy-five miles?

This ought to interest us, because if the difference is due to feed, to the care of the eggs or to anything that lies within the power of the poultrymen to change, he ought to know it. If the difference is due to climatic conditions, we ought to know it just the same so that we may be satisfied to produce an inferior product, take what the law allows us to get for it, keep our mouths shut, and be thankful for small mercies.

At first glance one feels like admitting that the fault is due in part to climate; anything that smacks of the "north" is usually called good though it may not be a particle better than what is raised some hundreds of miles south. The feed question is not at all allowable, because we feed just as good quality feed as Petaluma; all districts are likely to get adulterated feed once in awhile, and the only thing on which Petalumans can beat us is horse flesh. I don't believe that is any benefit to the quality of eggs; in fact I think it is rather a detriment than a benefit, but as all Petalumans do not feed it—it is out of the consideration.

Now if the fault is neither to be found in the feed nor the climate, we are narrowing the question down. From what I have seen of the large poultry ranches in this section they are kept in a clean sanitary condition, and very little disease is to be found on any of them, water is good and plentiful; nearly everyone has a good, cool storehouse to keep their eggs in, and except the cases and eggs nothing is kept in them that will pollute the eggs in any way. So now the question is practically unanswered as to any outside influences being the cause of the local product commanding such a small price compared with Petaluma's best.

Where Difference Lies.—The next query is what constitutes the best, or, as they are termed, "Petaluma selected"? And there is the answer. "Selected." Petalumans have bred up, at least those who produce "selected" eggs, a strain of hens that lay a fair-sized egg in general, then the Federation or dealers have raised the standard for weight and size, color, etc., to cater to a high-class market.

Now it is just possible that the necessity of having to find an outside market for their product was the real cause for the improvement, and some day the same necessity may impel the poultrymen in this part of the State to make a grade of selected eggs. If it does, I think they will find our eggs equal to Petaluma's. If it were not for necessity prodding us it is just likely that we would be content with every little improvements in anything, but necessity urging us on is a blessing in disguise.

National pride, State pride, city pride, family pride, and pride in producing things equal to others, may be mere "illusions," but they help the race along to better things; so they must be worth something. When a grade of eggs can be built up to command a ready market at a higher price than the strictly fresh egg of local production, all the way from Seattle to Nevada, and at all large cities like Los Angeles and Seattle, why it is time we were thinking seriously of building up something ourselves.

Ready Sale for Selected Eggs.—It pays to build up such a grade for several reasons, the principal one being a ready market. Dealers are always ready to buy what they think they will have a ready sale for, so that at the last, it is not what the commission man wants, or the storekeeper, but what the public wants, the wage earner, who is the real buyer in the market of good things to eat. Small eggs, pullet eggs, and all the poor grades are bought by boarding-house keepers and public bakeries and caterers of all kinds. The people who know what a good thing is always buy the best grade and are willing to pay a better price to get it. But even though the price was no higher it is worth something to have a ready market. So far Los Angeles County has had to bring eggs in, the local production not being equal to the demand, but the time is coming when the conditions will be reversed and the supply will exceed the demand. If we have not been wise enough or far-sighted enough to build up a select grade of eggs ready for the emergency we will sure see blue then, for in competition with others we will fall short.

Personally, I see no reason why we could not have a grade of selected eggs placed on the Los Angeles exchange, then if it was not necessary to ship any outside our own territory they would not get much of a name all at once; but in time the fact that Los Angeles market had "selected" eggs would leak out and be making a name in other markets.

Market Needs Improvements.—Our poultry market needs a lot of building up, too. It is like a run-down flock; needs new blood, perhaps a little honest blood would do the most good, for there are the worst lot of sharks engaged in it that I ever dealt with. But some day the poultrymen are going to get tired of being cheated and then they will combine to make things better and perhaps raise the grade of dealers, that being the greatest need at present. There are just as good grades of table fowls sent into Los Angeles market as anywhere in the State, and better than some markets ever get, for a great many of the poultrymen around the city have Orpingtons, Cornish, Wyandottes and all the rest of good table and general purpose fowls; but they meet with poor encouragement from the market. There are great possibilities in store for the southern part of the State both in table fowls and eggs, but we need a good many reforms in both. Since the Federation was organized the egg market has been improved very much so we are all hoping for better things, and the best way to get them is to work for a higher grade of goods and cater to those who are willing to pay for quality.

CONDITION POWDER FOR RABBITS.

The following condition powder is used by S. F. Streaner of Hughson, who now has about 800 rabbits: Fine ground charcoal, 3 pounds; fine ground oilmeal, 3 pounds; fenugreek (costs 25c a pound), ½ pound. Mix thoroughly and feed one teaspoonful to every ten grown rabbits once daily. Best to feed with a little bran.

Since feeding this, Mr. Streaner says they have had no trouble with internal parasites or that dreaded rabbit disease, of which the manifestation is fatty spots on the liver.

POULTRY NOTES.

Thursday, Nov. 16, has been entered on the calendar as Poultrymen's Day at the Panama-Pacific Exposition.

W. D. Bond of Gridley will set his incubators about Sept. 20. He is receiving orders almost daily for fall hatched chicks.

The Sebastopol Poultry Association is preparing to particlpate in the Panama-Pacific Poultry Show at the Exposition in November.

The law regulating the importation of eggs, known as the "Chinese Egg Law," was declared unconstitutional by Superior Judge Geo. E. Sturtevant on Sept. 1. Notice of an appeal to a higher court was served.

J. E. Russell and his sister are preparing to herd 1600 two-thirds grown turkeys in the wheat stubble fields near Terra Bella. Mr. Russell says this will add one-third to the weight of the turkeys. Ten cents per acre rental is paid for the use of the stubble fields.

The first annual poultry show of the Livermore Valley Boys' and Girls' Poultry Club will be held on October 9. A meeting of the various school branches of the club was held at the home of Judge A. J. Emery, secretary of the club, on Sept. 4 to discuss the arrangements.

According to figures sent out from the State Capitol of Aug. 31 the value of the eggs produced in California during 1914 was $18,000,000, the number about 70,000,000 dozen from all records available. This is supposed to be a new mark, and from all indications the present year will run beyond that mark, in spite of lower prices.

A number of poultrymen were visited at the request of the secretary of the Castro Valley Center (Alameda county). At a recent meeting Dr. Beach told of work in controlling chicken-pox. Poultrymen were very much interested and turned out well to the meeting. It is planned to have a demonstration on a large place where the disease is prevalent.

The Sacramento Poultry Association (fanciers) met at the Home Products League on Sept. 2 at which meeting Prof. J. E. Dougherty, head of the poultry department of the University Farm, delivered a lecture on poultry feeding. On Sept. 9, T. E. Quisenberry, poultry commissioner of Missouri, gave an illustrated lecture. This association is planning to have other lectures during the winter months.

Poultry Breeder's Directory

Rates in this directory, 3c per word each issue; or if carried weekly one year, 2½c per word.

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WHITE PLUMAGE POULTRY FARM and Hatchery. Sells Fall and Winter chicks. White Leghorns, Barred Rocks and Rhode Island Reds. Circular free. H. A. Schlotthauer, Exeter, Cal.

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Just as sweet.

For life is the miror
Of king and slave.
'Tis just what we
Are and do,
Then give to the world
The best you have
And the best will
Come back to you.

—Madeline S. Bridges.

"IN FUN."

Billy sat all alone. He was, as he said himself, "not feeling good." He really meant that he was not feeling happy, or cheerful, or contented. The grown-ups, however, would have said he could not be feeling good because he had been behaving badly.

He seemed to have started the day out wrong, somehow. He had begun by chasing the turkey till the turkey put an end to that by chasing him. Next he had pulled the cat's tail till she too turned and scratched him. After this you might have thought that he would settle down and be good; but, no! he hid the dog's bone, and upset the kitten's milk saucer, next he took Susy's new doll away and (but this was an accident; he didn't mean to do this) cracked her nose,—of course, the doll's nose, not Susy's! At that point father came home to dinner and heard about the misdeeds, and said Billy had better not do any more stunts like that before supper or he certainly wouldn't go to grandmother's next Sunday, So, not to get into any more mischief, Billy sat alone in the yard, though every minute it seemed getting colder.

"I did it only in fun," was all the excuse he could think of.

"Well, don't have any more fun of that sort," said father.

The afternoon seemed very, very long and very cold, so that at last Billy had to go indoors, although he could not hope that any one would be particularly glad to see him. As a matter of fact, Susy put her toys quickly into a box and sat on the box. Mother smiled at him (you could always count on mother's smiling), but she was hushing the baby to sleep, so she couldn't do more than that.

Billy took a book,—one of his Christmas presents,—put a stool by the fire, and sat down to look at the pictures. But the fire made him sleepy. He wanted to be out in the fresh air. But he also wanted some one with him. He thought that he would not get into so much mischief. Even if he did the other person would get some of the blame!

He looked at Susy.

"Come out and play," he said.

Susy "wasn't speaking to him." But—it was so very quiet when mother was getting baby to sleep—Susy felt inclined to answer. However, what she said at first was,—

"You can't play with my things."

"Don't want to! They're only girls' things, anyway."

If the baby had been either awake to play with or safely asleep so that mother was at liberty, Susy would have refused to speak again. But it was dull, the sky was getting beautifully red, and she daresayed she wouldn't be allowed out without Billy, who was nine, while she was only seven.

"I'll go for a little teeny while," she decided. "And I'll come in when I want to."

Billy said nothing to this. She couldn't come in unless he opened the door. Perhaps she had forgotten that.

Mother looked toward the nail where coats and caps were, so they put those on and went out. Oh, how nice the air was, after the fire! Billy gave a shout, and ran over to the snow man.

"Oh!" cried Susy. Her tone sounded as if she had seen something new. Billy looked.

At the foot of the tall tree that leaned against the wall of the house a chipmunk was trying to fix a little wad of paper into his mouth. Susy crept up to him very quietly. Billy followed her.

"Sh-sh!" she whispered. "Let's see what he does."

So they stood very quietly, and Master Chipmunk began to climb up the tree in a very jerky way. Every now and then he would stop and seem to have trouble with his paper. But at last he went up and out of sight.

"What's he doing?" asked Susy.

"Taking up paper for his nest, and it's a sign it's going to be colder," replied Billy, who had been told this the last day of school. "When he comes down, I'll shoo him up again That'll be fun!"

"Oh, no!" cried Susy. "Let's put some more paper for him, and watch him take it up. That'll be more fun."

Billy was surprised.

"So it will," he said.

Susy ran back into the house—Billy opened the door!—and brought out some soft tissue paper, left over from Christmas presents. She and Billy had a beautiful time for half an hour. They put the paper in nice-sized bits at the foot of the tree and then hid. Master Chipmunk didn't seem surprised at all. He took the bits quite as a matter of course, and soon had the last one up. He didn't come down again.

"How nice and warm and soft his nest is!" Susy cried. "Wasn't it fun!"

"What was fun?" Father had come when their backs were turned.

Susy told him.

"Did you like it, Billy?" father asked him.

"Fine," replied Billy.

"Then"—father laid a hand on each shoulder as they went to the house—"always have plenty of that fun—the fun that helps, and doesn't hurt!"—Frances Harmer, in Sunday School Times.

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San Francisco Depot—Key Route Ferry.

CLEAN WATER, GOOD SEWERS, AND FEWER TYPHOID DEATHS.

Clean water to drink—this is the long first step to take toward making typhoid fever as rare in California as the mastodon or the sabre-toothed tiger.

To help people get clean water to drink, and to help prevent the present wicked and inexcusable sacrifice of several hundred innocent lives every year to typhoid fever, the State Board of Health has just established a Bureau of Sanitary Engineering, with its offices and laboratories at the University of California, and has appointed as Chief Engineer and Director of the Bureau Chester G. Gillespie, of high reputation as a sanitary engineer and one of the first men who ever completed the full professional course in Sanitary Engineering in the University.

Since Gillespie's graduation, eight years ago, he has been actively at work designing and building chlorination and filter-plants, sewage-disposal systems, water works, etc., in various parts of the United States.

The State's new Sanitary Engineer has only just arrived in Berkeley to to begin his work. Already requests are waiting for him from more than thirty California towns for advice as to how they ought to go about getting clean water and how to protect themselves against typhoid, intestinal complaints of children, and other water-borne diseases.

Not only as to water-supply problems will the new bureau be of great service, but also in the matter of sewage disposal, for advice will be given to the engineers and authorities of towns and villages throughout California as to how best to treat sewage so as to render it harmless to the commuinty which seeks to dispose of it, and to towns downstream as well.

There are already laws requiring that all public water supplies must have permits from the State Board of Health, approving the sanitary quality of sources and supply. There are laws, also, that a community must not discharge sewage into inland waters, such as lakes or rivers, nor into tidal estuaries, without permits from the State Board of Health. In order that this legislation may be carried out, the new bureau will make a careful study of water-supply and sewage-disposal conditions throughout the whole State.

Remarkable advance has been made in California in the last few years in reducing the death-rate from typhoid. Last year only about three-fifths as many people died of typhoid in California, in proportion to population, as did four years earlier. In 1910 there were 477 deaths from typhoid, which, with a population of 2,386,000, represented a death rate of 19.9 per hundred thousand from this one disease. In 1914, with an estimated population of 2,763,000, there were 374 deaths, or 13.54 per hundred thousand.

Yet, most of these 374 deaths were totally unnecessary!

Among the great factors which brought about this gratifying reduction were the work of the State Board of Health in arousing the interest of the whole community in the fight against typhoid, the investigations of typhoid outbreaks by the State Hygienic Laboratory, such as its investigation resulting in the discovery of one woman, a typhoid carrier, who had given the disease to ninety-four people by preparing one single dish of spaghetti, and the work of the State Board of Health in sending free to any physician in California anti- typhoid vaccine, prepared at the State Hygienic laboratory at the University, a vaccine by the use of which anyone who desires may be immunized against typhoid fever.

The creation of this new Bureau of Sanitary Engineering insures valuable co-operation between the State and the individual communities of California for the suppression of sources of typhoid infection, through purification of contaminated water-supplies and through improved methods of sewage-disposal. Another great task to be done is to arouse every farmer and every country-dweller in California to the importance, for the protection of his own family and of the community in general, of seeing to it that his own farm or ranch has a proper sanitary method for the disposal of human wastes, so that streams may not become contaminated, and milk-cans and the milk supply be not exposed to infection.

Typhoid is primarily a country and small-town disease, because large cities take more care to have clean water and adequate systems of sewage disposal. There are two rural counties in the interior of California, for example, that have an annual death rate from typhoid eight times as heavy as that of San Mateo county, for instance. The great reason for this is that the sources of water-supply in San Mateo county have been better protected from danger of pollution. Its towns do not pour their sewage into streams from which other people must take their drinking water.

The new Chief Engineer and Director of the Bureau of Sanitary Engineering began his professional work by spending several years in filtration experiments for the People's Water Company of Oakland. Then he went East, participated in the designing of the filter plant for Minneapolis, had charge of the designing of a water-filtration plant for Evanston, Illinois, and returned recently to Sacramento to design a sewage-screen for the treatment of sewage from the annexed districts and from certain older portions of the city of Sacramento.

HOUSEHOLD HINTS.

When washing windows add a small quantity of bluing to the water. This makes them clearer.

Scatter grated white potato over the carpets if you wish to freshen their colors.

When packing away rugs or carpets for any length of time fold in powdered alum and a few moth balls when rolling up.

To remove stains from the tops of zinc kitchen tables use a cloth dipped in vinegar.

In laundering the sheer white collars so much worn use borax instead of starch (a tablespoonful to a quart of water). It leaves them more transparent.

Furniture polish may be made at home after this recipe: Take equal portions of linseed oil, turpentine, vinegar and spirits of wine. Shake well and apply with a linen cloth for cleansing. For polishing use a dry flannel cloth.

When using a double boiler the food will cook more quickly if the water in the outer vessel is salted in the proportion of a fourth of a cupful of salt to a quart of water.

One short row of nasturtiums in the garden at this time is worth all of the other flowers put together, they are so lovely in the dining room. Put a handful of them in a wide-mouthed green glass vase and you have a decoration that is as charming as any expensive bouquet of orchids could be.

Remember that youth is playful. Be glad that this is so and prolong the period with your own young folks.

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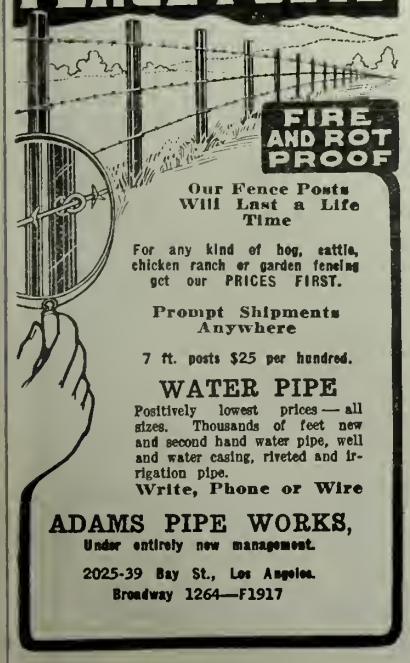
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The Markets.

Unless otberwise quoted, f. o. b. San Francisco.

San Francisco, Sept. 15, 1915.

WHEAT.

Uncertainty in the foreign exchange outlook has been holding up export business noticeably, causing continued weakness wbich unfavorable weather in the Canadian wheat districts has not been able to overcome. All prices show a further decline.

Sonora	$1.55	@1.60
Cal. Club, ctl	1.52½	@1.55
Forty-fold	1.60	@1.65
Northern Bluestem	1.65	@1.70
Northern Club	1.52½	@1.55
Northern Red	1.55	@1.65

BARLEY.

There is practically no shipping business going through at the moment and local buyers of feed are accordingly slow to take hold, looking for easier prices later on. While there is a very fair jobbing movement of feed, prices show little strength.

Shipping	$1.25@1.30
Choice Feed, ctl.	1.15@1.20

OATS.

Black oats for seed are moving to some extent as quoted below. Other varieties are rather quiet at the old prices.

Black	$1.85@2.00
Red Feed	$1.30@1.40
Red Seed	1.60@1.65
White	1.40@1.45

CORN.

Tbere is no California corn offered at present, and it is not worth quoting. Trading in other lines is inactive, and values stand as before.

Eastern Yellow	1.80@1.85
Milo Maize	1.75@1.80
Manchurian	1.40@1.60
Kaffir	1.80@1.85

BEANS.

Bean values have not yet settled down to a very definite basis, and it looks as if there would be a good deal of uncertainty until the new crop is well in hand, as the output is not at all well known, and the probable extent of the shipping business is problematical. The old Blackeye quotation is allowed to stand, though a sharp decline is expected, as the crop is very large and dealers are in doubt what to pay. Cranberry beans show a further advance, and horse beans are also firmer, though there is a good deal of poor stock that is hard to sell at any price. Red Kidneys are easier, while Limas are stiffening up.

(On wharf, San Francisco.)

Bayos, per ctl.	$4.40@4.60
Blackeyes	3.50@4.00
Cranberry Beans	4.00@4.50
Horse Beans	2.25@3.00
Small Whites	4.60@4.85
Large Whites	4.50@4.75
Pink	3.75@4.00
Limas	4.90@5.05
Red Kidney	5.75@6.00
Mexican Reds	5.25@5.75

SEEDS.

Tbus far there bas been no demand of any consequence, but dealers are beginning to get their stocks in shape for the active season. Values remain as last quoted.

(Wholesale Prices, San Francisco.)

Alfalfa	17 @18 c
Brown Mustard, per lb.	Nominal
Canary	9 @10 c
Hemp	3 @ 3½c
Millet	2½ @ 3 c
Timothy	7½ @ 8 c

HAY.

The principal development this week is a rather sharp advance in alfalfa. This has been in strong demand right along, with a large shipping movement east from growing districts; and the choice late cuttings now coming from the river district find a good, healthy demand locally. Arrivals in general show some curtailment, but are still quite large and everything of good quality moves off readily at firm prices. Choice and fancy hay is scarce, and higher prices are looked for. Most of the hay will be under cover by the end of the month, and a general advance is expected after that.

No. 1 Wheat, per ton.	$12.00@13.50
do No. 2	8.50@10.50
Tame Oats	9.00@13.50
Wild Oats	7.00@10.00
Alfalfa	10.00@13.00
Stock Hay	5.00@ 6.00
Straw, per bale	.25@ .40

FEEDSTUFFS.

Cracked corn has been marked up a little. Middlings are lower, and rolled barley is rather easy, but without quotable change. Trading in most lines is limited to current needs.

(Wholesale prices per ton, carload lots, San Francisco.)

Beet Pulp, per ton	$20.00@21.00
Alfalfa Meal, ton	16.00@19.00
Alfalfa Molasses Meal per ton	19.00@20.00
Bran, per ton	27.00@28.00
Oilcake Meal	38.00@39.00
Cocoanut Cake or Meal	23.00@25.00
Cracked Corn	41.00@42.00
Middlings	34.00@35.00
Rolled Barley	25.50@26.50
Rolled Oats	30.00@32.00

VEGETABLES.

The local market is hardly as active as at last report, and wbile offerings in some lines are lighter the general tone at the moment is ratber easy. String beans are holding up fairly well, with limited offerings, while limas are lower. Arrivals of tomatoes were consderably lighter for a few days, but there are still more than will move readily and last week's top figure has been reduced. Bell peppers also are easier. Summer squash is coming in less freely, and the price has stiffened considerably. Green corn is about the same as last week, with fancy stock bringing a premium.

(Wholesale prices, San Francisco.)

String Beans	2 @ 3 c
Lima Beans	2 @ 3 c
Peppers, bell, box	30 @45 c
Tomatoes, lug	30 @60 c
Cucumbers, lug	20 @30 c
Summer Squash, lug	35 @50 c
Green Corn, sack	.75@1.25
Okra, lug	50 @75 c
Eggplant, lug	25 @50 c

POTATOES AND ONIONS.

Everytbing in this line is firmer this week. Salinas potatoes can bardly be had under $1.40, and choice Delta stock brings an advance. The large shipping movement of onions also is beginning to have its effect, and garlic has recovered its firmness.

Salinas Burbanks	$1.40@1.50
Delta Burbanks	75 @ 1.05
Sweet Potatoes, ctl	$1.75@2.00
Onions, ctl	60 @70 c
Garlic, per lb., new	7 @ 7½c

POULTRY.

Young turkeys have been marked down a little, as there is not yet much demand. Chickens have been coming in freely, but are moving off fairly well. Fryers show a slight decline.

Turkeys, old, lb.	17 @19 c
do, young	23 @25 c
Broilers, 15 lbs. to doz. and less, lb.	27 @30 c
do, over 15 lbs to doz	22 @24 c
Fryers	20 @21 c
Hens, extra, per lb	15 @16 c
Small Hens, per lb	13 @14 c
Smooth Young Roosters per lb.	21 @22 c
Squabs, per doz.	$2.00@3.50
Geese, per pair	2.00@2.50
Ducks, young, lb	13 @14 c
Old	12 @13 c
Belgian Hares	8 @ 9 c

BUTTER.

Extras show the first change in several weeks, being ½c lower, on continued liberal arrivals of this grade. Prime firsts show a similar decline, while firsts are off 1c.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	28	28	28	28	28	27½
Prime Firsts	27½	25½	25	25	25	
Firsts	29	25	24½	24	24	

EGGS.

Both extras and pullets have been fluctuating more or less for the last week, but the tendency has been generally upward, and for the last two days extras have stood firmly at 37c.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	35	34½	36½	37	37	
Sel. Pul.	30	31	30½	31	31	

CHEESE.

Cheese of the cheddar type so far has not become a very prominent feature in the trading on the Exchange, flats being considerably lower than the old-process flats, which have advanced sharply this week. Y.A.'s are a little easier than last week.

Y. A.'s, fancy	13½c
Fancy Calif. flats, per lb	13 c
Calif. Cbeddar flat, per lb	11½c
Monterey Cheese	13 @14 c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	32	32	32	32	33	33
Cheese	12	12	12	12	12	12

DECIDUOUS FRUITS.

Business continues active, and most arrivals are readily absorbed, though offerings in some lines are too beavy for any firmness in prices. Huckleberries are fairly well held, wbile strawberries are easy again. Plums are still stiffening up. Bartlett pears show quite a wide range, according to quality; and some offgrade stock sells below quotations. Peaches are not very plentiful, and fancy stock is firm, though there is a good deal of ordinary stock that is hard to move. Apples are fairly steady, except belleflowers, whicb are slightly lower. Cantaloupes are decidedly easy, though they are moving in large quantities; watermelons also have been marked down a little at the inside figure. The demand for grapes has been decidedly heavy, and while offerings also have increased, the general run of prices are pretty well maintained.

Huckleberries, lb.	6 @ 9 c
Strawberries, chest	$1.50@4.00
Blackberries, chest	3.00@4.00
Plums, crate	65 @85 c
Prunes	.90@1.00
Figs, bx., double layer	40 @75c
Nectarines, crate	50 @75 c
Pears, Bartlett, box	75 @ 1.35
Peaches, small box	40 @75 c
Lugs	65 @90 c
Apples, Grav.	.70@1.10
Alexander, 4-tier	.75@1.00
Belleflowers	60 @90 c
Casabas	40 @60 c
Persian Cantaloupes, dz.	1.25@ 2.50
Cantaloupes, crate	65 @70 c
Watermelons, doz	60 @ 2.50
Grapes, Thompson Seedless, lugs	90 @ 1.25
Malaga, lugs	75 @ 1.00
Tokay, crate	50 @60 c
Muscats, crate	75 @ 1.25
Black, lugs	40 @50 c

DRIED FRUITS.

The dried fruit market shows little change this week. According to some reports the demand is limited, but there seems nevertheless to be a very fair movement of nearly all varieties to distributing markets, and the situation shows about as much strength as last week. Apples have been shaded a little, but with a light crop in many quarters a firm market is expected. Apricots are closely held, and while tbe movement in some quarters is a little slow, the remaining stock in the country is expected to clean up readily. Only strictly fancy stock, however, would bring the top figure quoted. There have been reports of offerings of prunes in the east at low prices, as a result of which some packers have reduced their offers, but growers are holding out quite firmly. Peaches have dropped a little as the movement is limited, though no further decline is expected. There bas been a large movement of raisins during the last few weeks. Tbe New York Journal of Commerce says:

"Late Coast advices report an unsettled tendency in the market for Santa Clara prunes early fall shipment. Packers appear to have a wide range of prices and it is found almost impossible to establish a ruling market quotation.

"The tone of the future prune market during the trading last week was inclined to be exceptionally quiet, though the New York operators perhaps show less interest in the situation than any other market.

"Future apricots are inclined to be slightly easier. There are a few offerings made of Santa Clara apricots at 8c for extra choice, 8¾c for fancy and 9½c for extra fancy f. o. b. steamer; but apparently there is little inclination in the market to buy.

"Raisins maintain a very strong tendency. Spot stocks seem to be

Classified Advertisements.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

WANTED.

DAIRYMAN with wide experience in the business would like a position October 1st. Have handled all leading dairy breeds, pure-bred and grades, certified and market milk, butter making, etc. Have also been successful with show stock. Was in charge of a large herd in California four years. Last year the entire herd made an average of over 10,000 lbs. of milk and 350 lbs. of fat per cow, including heifers—it pays to know. If you are interested in the improvement of your herd, write me. Would also consider a share proposition in a good herd. Box 720, Pacific Rural Press.

LAND OWNERS—If you cannot attend yourself and need help, you will find me the right man; am 46 years of age, country raised, married, well educated, of executive ability. Have thorough knowledge of intensive farming, fruits, grain, alfalfa, irrigation, live stock, dairy, etc. Made success in farming large ranches and can do it again if opportunity is given, references. Address, Farmer, 116 Liberty St., San Francisco.

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APPLES—Buy direct from the producer. Bellflowers now ready. Bulk pack, 4 and 4½ tiers, Graded to Fancy, 70c per box F. O. B. Watsonville. Satisfaction guaranteed. Try a box or two. You will recommend them to your friends. Edward A. Hall, Watsonville, Cal

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BEES.

INSTRUCTION BOOKS and prices, bees, supplies, etc. free. Spencer Apiaries, Ventura, Cal.

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FARMS WANTED—We have direct buyers. Don't pay commissions. Write describing property, naming lowest price. We help buyers locate desirable property Free American Investment Association 93 Palace Bldg., Minneapolis, Minn.

FOR SALE—Beautiful country house near Capitola Two and a half acres chiefly in cherries. Seven roomed house and outbuildings. Address Owner, P. J Archibald, Soquel, Cal.

563 ACRES winter sheep pasture, 16 miles east of Sacramento. Will take payment in bred ewes. Inquire E. H. Rovles, care California Fruit Exchange, California Fruit Building, Sacramento, Cal.

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WANTED to hear from owner of good farm for sale Send cash price and description. D. F. Bush, Minneapolis, Minn.

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RECLEANED ALFALFA SEED, excellent color, very high germination, first-class quality, 19c per pound. F. O. B your railroad station. Send for sample. E. F Sanguinetti, Yuma, Ariz.

well cleaned up and the coming crop has heen the center of considerable activity for some time."

(Prices to Growers.)

1915 crop

Apples	5½ @6¼c
Apricots, per lb	7 @9 c
Figs, white	4 @4½c
Black	2¼ @3 c
Calimyrna	5½ @6 c
Prunes	3⅜ @3¾c
Peaches	2¾ @3¼c
Pears	5 @8 c
Raisins (in sweatbox):	
Loose Muscatels	4 @4½c
Seedless Sultanas	6 @6½c
Thompson Seedless	6 @6½c

San Jose prices to growers; on 1915 crop:

Apricots	7½ @8½c
Prunes, subject to dist.	3¾ @4 c
Peaches	2½ @3 c
Pears	5 @8 c

CITRUS FRUITS.

The eastern auction markets are taking all of the valencia oranges that California ships at good prices. The markets on this variety of fruit has been hetter this season than for several years past. Lemons continue in the dumps and as the warm season is about over, no increase in the demand is looked for this year.

At New York on Monday, Sept. 13th, valencias on the auction market averaged from $3.55 to $5.60 per box. Lemons averaged from $1.35 to $3.20 per box. At Chicago the same day, valencias brought $3.50 and $5; lemons $2.25 to $3 per box.

Shipments from California for the season are nearly up to the amount shipped last year to date.

Prices show no further change in the San Francisco market. Oranges are still moving in a rather small way locally, but lemons and grapefruit have found a very fair sale in the last week.

(Wholesale prices, San Francisco.)

Oranges, Valencias, bx.	$3.50@4.25
Grapefruit, seedless, bx.	2.50@3.00
Fancy	3.00@3.50
Lemons, box	1.50@2.75

NUTS.

The Almond Growers' Exchange has named opening prices to the trade as quoted below. These prices are net, without charge for bags. It is too early to say much as to the extent of the business done, but there are indications of a good demand. There is nothing new in walnuts.

(Exchange prices f. o. b. common shipping point.)

Almonds:	
Nonpareil	15 c
IXL	13½c
Ne Plus Ultra	13 c
Drakes	11 c
Languedocs	11 c
Walnuts:	
Jumbo, lb	19 c
No. 1 Softshell	16½c
Budded	18 c
Ungraded	8 @10 c
Manchurian	11 c

LIVE STOCK.

Hogs are in rather less demand, and while offerings from the country are not excessive the price has again been shaded. Cattle and calves are firm. Dressed sheep and hogs are both lower.

Steers, No. 1	6¼ @6½c
No. 2	6 @6¼c
Cows and Heifers, No. 1	5½ @5¾c
No. 2	5¼ @5½c
Bulls and stags	4 @5 c
Calves: light	8 @8½c
Medium	7½c
Heavy	6 @7 c
Hogs, Grain-fed:	
200 to 300 lbs.	6½c
100 to 200 lbs.	7 c
Prime Wethers	6 @6¼c
Ewes	4¾ @5 c
Suckling lambs	7 @7½c

DRESSED MEATS.

Steers	10 @10½c
Veals, large	12½ @13 c
Small	14 @15 c
Prime Wethers	11 @12 c
Ewes	10½ @11 c
Suckling lambs	13 @14 c
Hogs	11 @11½c

WOOL.

Dealers are holding off at present, and values for the fall clip are not yet very definitely fixed, as only a small amount has changed hands. More trading is expected, however, within the next week or two.

Spring clip:

Humboldt & Mendocino	18@27c
Sacramento Valley, lb	18@22c
Southern, year's staple	15@18c
Six months	14@16c

Fall clip:

San Joaquin	8@10c
Northern	10@14c

HORSES.

A few horses of fairly good type have been offered here this week, and the market has developed more life than for some time past, though the situation is still rather unsatisfactory to sellers, as only limited interest is taken in the market. Prices, however, are kept up as a rule to about the range quoted, and a hetter local demand is expected as the season advances.

(Approximate values at San Francisco, based on auction sales.)

Heavy drafters, 1700 lbs. and up	$275@300
Light drafters, 1550 to 1650 lbs.	200@225
Chunks, 1350 to 1500 lbs.	165@185
Wagon horses, 1050 to 1350 lbs	125@150
Green Mountain range horses, 950 to 1200 lbs	50@ 90
Farm workers	60@ 75

MULES.

1200 lhs and up	200@225
1100 lbs	175@200
1000 lhs	140@160
900 lbs	90@150

HIDES.

Heavy steers over 50 lbs	16 @17½c
Medium	15½ @17 c
Light Steers under 48 lbs	15½ @17½c
H'vy Cows, over 50 lbs.	15½ @17½c
Kip	15½ @17½c
Veal	17½c
Calf	17½c
Dry Hides	26 @27 c
Dry Kip, 10 to 15	25 @26 c
Dry Veal, 5 to 10	30 c
Dry Calf, 7 down	30 c
Horse Hides—	
Salt: Large	$3.00
Medium	2.50
Small	1.00

SPECIAL DECIDUOUS MARKET REPORT.

By J. L. Nagle.

Sacramento, Cal., Sept. 13, 1915.

During the past week the movement of grapes has been on the increase. All markets, however, have taken care of the supply readily and the demand has remalned active. The quality of the grapes this season is considerably better than for several years past and this has in a great measure stimulated consumption. There will be a noticeable falling off of Malaga shipments from now on, hut if the weather remains favorable the Tokay season should last several weeks. We see no indication of the market declining and though all markets are loaded with Eastern peaches, California pears and grapes seem to have the preference.

Late Bartletts from the mountain districts are bringing fancy prices and the stock is holding up exceptionally well.

There is some demand in the southeast for cling peaches and already several cars are rolling at prices that will net the growers a few dollars a ton better than that offered by the canners. The distribution of a portion of the California cling peach crop throughout the east, wrapped in the regular boxes, has somewhat relieved the pressure felt by the inactivity of the canners to pack, and as a result we look for some activity from the canners within the next week or ten days. Practically all freestone peaches will have been shipped and out of the State within the next four or five days.

The following prices have ruled for the week:

New York — Bartletts averaged $1.68; Malaga Grapes, $1.14; Tokay, $1.40; Cornichon, $1.40; Duke Plums, 83c; Gross, 91c; Phillip Peaches, 55c.

Chicago—Bartlett Pears averaged $2.15; B. Hardy, $1.47; Malaga Grapes, $1.03; Tokay, $1.50; Duke Plums, 96c; Gross, $1.41; Salway Peaches, 45c.

Total shipments to date, 8951 cars; total shipments same date 1914, 10,050 cars.

REPORT OF PRUNE GROWERS COMMITTEE.

It appears from growers' reports to this committee that the feeling is intensifying that the 5c basis, demanded by the growers at the mass meeting in May, is what we should have for our fruit.

Reports almost universally show that crops are turning out materially lighter than was anticipated and the shortage is so general that we caution growers from giving credence to statements made by huyers as to crops in other districts. It is a simple matter for the buyer to state that some other district is heavy whereas investigation shows conditions to be the same shortage of crop in almost all districts.

We quote as follows from the New York Journal of Commerce: "The dominating tone in the future prune market appears to be stronger. Though buying from all quarters continues to be light there was a firmer feeling in evidence."

We request growers to continue to report all information that may come to them relative to crop conditions and prices to the committee of their districts, so that we may have full material from which to formulate our next report.

J. H. Bone, Chairman,
H. O. H. Shelly, Sec'y.
San Jose, Sept. 11th, 1915.

Publisher's Dep't.

OUR NEW HOG BOOK.

The publisher was quite elated last week when the first copies of "California Hog Book" came from the printer. Our new "baby" looks fine. The binding of the book is quite attractive, and the printing on the inside is well done. The photo halftones, of which there are 31 full-page plates, are especially good, and the line cuts came out clearly.

Mr. Guilford, the author, was equally pleased at the appearance of the book, and whether he makes a dollar or not from its publication, we believe he feels that he has given to the public a work that is worth while and one that was needed hy the swine breeders of California. Mr. Guilford made a thorough job by covering every phase of hog production, from the pig to the market. In every chapter are practical points that will help the reader to a hetter understanding of the hog and through this knowledge to a greater success. Feeds and feeding, breeds and breeding, housing, appliances, farrowing, climate, diseases and how to avoid many of them, fitting and exhibiting, all are treated quite fully and in a very readable way.

We anticipate a growing demand for this book as its merits become better known. One book in a neighborhood will be the cause of the sale of many more.

The work contains nearly three hundred pages, is cloth bound, well illustrated, and the price is $2 per copy postpaid. Address the Pacific Rural Press.

The Superior Serum Company of Kansas City has opened a western office at Los Angeles with L. B. Green in charge, who is ready at all times to give information to breeders about hog cholera, and the serum his company is advertising in another column.

The Bean Spray Pump Company of San Jose has been awarded the grand prize and three gold medals at the Panama-Pacific Exposition on their exhibits of spraying outfits and centrifugal pumps. The new all-brick factory of this company covering three acres at Lansing, Michigan, is now running at full capacity.

Membership Books Closed

for the 1915 season. The Exchange expense for the 1914 season, exclusive of Eastern brokerage, was 1.92%. Growers are cordially invited to sign up now for the 1915 crop.

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Vol. XC—No. 13 Forty-Fifth Year

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Successfully Preventing Hog Cholera

There are three phases in prevention of hog cholera: (1) keeping germs off the ranch; (2) preventing sickness if germs get among hogs; (3) preventing spread or recurrence of disease if hogs get sick.

[Written for Pacific Rural Press.]

We have recently visited the hog-pens of leading breeders all up and down the Sacramento and San Joaquin Valleys and some of the Coast counties, and have been freely invited to go into the pens to inspect the hogs. We have always been careful to inquire in regard to sickness on the place and to look at the hogs as carefully as possible before entering the pens; but whether we had or not, we would have been welcome.

Preventing the Germs.—The invitation of visitors into the pens, regardless of whether they have previously been among sick hogs, is most severely to be condemned, and is one of the greatest means of spreading the disease. Mr. Tweed of Glenn county one time rightly refused to allow a neighbor on his place, because the neighbor had just been attending cholera-stricken hogs.

Madera county has a swine-breeders' association, whose members agree to prohibit strangers, and especially vendors of patent hog remedies, from visiting their pens. They also agree to keep their hogs as far from the highways as possible, to avoid possibility of their going onto the roads, or of stray hogs and other animals getting into their pens. Chas. Goodman of Colusa county calls special attention to the danger of roaming hogs, who fight through the fences and often break them down and serve as ready carriers of the disease. Merced county has an ordinance which also prohibits dogs and other animals from running loose from cholera-infested ranches. Imperial county has an ordinance compelling all hogs brought into the county to be quarantined at their destination at least thirty days before being turned in with the herd.

On our trips through the State, we have, time after time, seen hogs wallowing in the irrigation ditches. This is a most prolific way of spreading the disease where the water runs onto neighboring ranches. Rain water and drainage water are equally bad.





VACCINATING YOUNG AND OLD HOGS AGAINST CHOLERA.
When hogs have been exposed to infection but have not become visibly sick, they should receive serum alone or serum and virus, which are now produced at the State University and sold at one cent per cubic centimeter, to be used by qualified persons.

Even blackbirds and buzzards are guilty of spreading cholera, as shown by the experience of John Wannop of Butte county. His neighbor lost his herd by cholera and did not bury the carcasses. Buzzards fed from them and roosted in the trees under which Mr. Wannop's hogs slept, and Mr. Wannop lost his herd, too. The neighbor introduced cholera into another herd at a considerable distance by hauling slops in the same wagon which he had used for the first herd. Chickens which pick flies from sick hogs carry the disease on their feet to neighboring pens..

Many cases of cholera are traceable to importing hogs in stock cars which have not been disinfected. Dr. L. C. Kennon remarked that he could sit at his office in the north side of Merced and tell when there was an outbreak of cholera anywhere north of the city. Immature and unfinished hogs would be brought to market with a rush, and all that remained was to find out where they came from.

It is quite certain that many of these were sick before they reached their destination, and would leave the stock cars in dangerous condition for future shipments. Experienced breeders always disinfect the cars before shipping their hogs to the fairs.

Resisting the Germs.—Since visitors, birds, stray animals, wagons, wind, water and imported hogs may introduce germs onto a ranch, it is well to be prepared for their reception.

Many very successful breeders have seldom or never had cholera outbreaks on their ranches, because they kept the hogs in healthful cholera-resistant condition. This is done by allowing them to keep clean, by disposing of lice and worms which reduce the hogs' vitality, though often unnoticed by unobservant breeders, by feeding them mixtures of charcoal, sulphur, etc., in non-patented combinations. They have avoided patent medicines, which, so far as is known by hog cholera authorities, have never yet cured a sick hog; but have provided shade from the hot sun, shelter from cold rains, and wallows which are capable of being cleaned. These measures are all supplemental to the feeding of balanced rations, without which no animal can become most vigorous.

Serum Treatment.—In case the germs are introduced in such

(Continued on page 305.)

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California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at 5 p. m., September 21, 1915.

STATIONS	Rainfall Data: Past Week	Rainfall Data: Seasonal To Date	Rainfall Data: Normal To Date	Temperature Data: Max'm	Temperature Data: Min'm
Eureka	.01	.29	.83	66	50
Red Bluff	0	T	.37	94	56
Sacramento	0	.01	.18	94	52
San Francisco	0	.01	.08	80	52
San Jose	0	.04	.22	88	46
Fresno	0	T	.04	98	56
Independence	0	.08	.02	90	48
San Luis Obispo	0	.01	.23	98	48
Los Angeles	0	0	0	82	56
San Diego	0	T	0	72	58

THE WEEK

It certainly begins to look as though Jupiter had slipped a cog in his quadrature or else the Santa Clara prophet, Dr. Porta, has taken a wrong squint at it. According to his forecast these are the days during which we would be having "fisherman's luck" as to our garments, but we are still dry in every thread thereof and it looks now as though the week would finish dry in spite of the declaration that we should probably have five inches of rain in San Francisco as we did the third week of September, 1904. We do not seem to have gained much water by changing from a sun-spot prophet to a quadrature prophet. Some heavy showers have stolen into Southern California from the Mexican storm-system, as they frequently do, but the state as a whole is as dry as Connecticut has been since the recent election. Of course, we are not complaining, for September rains do far more harm than good and we have gained a lot of late fruit, dried fruit, bright beans, rich dry-feed, etc., etc., by not having rain to muss them up. We only mention the matter to point the reflection that the way to farm in California is to go right ahead with whatever it is seasonable to do and not be sidetracked by the prophets. And the things to get, by all those who have to wait for rains, are these: information and organization.

Let the Farmer Extend Himself.

This is the time of the year which is nearest to leisure of any of the California seasons. It is the time when Californians ought to get out from their own acreage into contact with their fellow-citizens in the same speical lines of work and study, to learn, by sight and word, what is good for their business. Our columns are very full of suggestions in such lines these days. Last week we had a paragraph showing how two Hemet farmers gassed up their motor and toured for hundreds of miles to see what other farmers are doing to make their production profitable. They returned to their homes wise, confident and hot for action toward doing their business in a stronger, better way. This was in lines of fruit handling, and what they did is commended to other growers. We wish we could feel that every time our field-writers send in outlines of good things which they find people doing locally, there would be scores of our readers who would take to their motors, or to public conveyances, and go to the spot and hold up the doers of progressive things for information and inspiration. In the nature of things, with such a variety of farming interests to serve, we can often give little more than a pointer toward a good thing. Let all who can, follow up these pointers personally, or by sending delegates from their neighborhoods to investigate and report to them like the Hemet people did. For what are you paying your taxes to meet the cost of California's new system of highways? Are you paying this vast amount of money so that throngs of automobiling tourists can fly by and admire your front gates? If that is all you are doing it for, take a hoe and go out and cut the weeds from around the gate posts, while the throngs are passing so that our inspecting visitors can at least see that California is not a still-life picture, but that California is a place of action and that its desirability as a place for homes and investments lies largely in the beneficent industry of Californians. But thousands upon thousands can do better than this, if they will. Get out on the highways yourselves and collect the equivalent of your taxes by spinning around the state, looking for sight and speech with men who are doing things better than you are. This is the best way to learn how to do progressive things and it will make you, and save you, a lot of money in the end. We do not believe any too strongly in spoon-fed farmers. University Extension will help them, good rural books and journals, which deal with California conditions, will help them; but these are only help and inspiration to agricultural extension of the highest efficiency, by which a man grabs himself by the nape of the neck and yanks himself out of his ruts with frank, cordial, co-operative contact with his fellow-men. Do it now, while the rains linger.

Live Stock Activity.

Although the foregoing exhortation to activity was suggested by the enterprise of two fruit-growing citizens of Hemet, it by no means belongs wholly to that branch of California production. Our readers must have noticed that we are fairly launched now on a systematic effort for the upbuilding of our live stock industries, which we promised, some weeks ago, to enter upon. Have you not heard the pigs squealing, the sheep bleating, the horses neighing, the cows lowing, the bulls bellowing, and the hens cackling, through these columns for the last two months as they never did before? Are you not becoming interested in better dairying, hauling, meat and egg making as one of the most promising lines of California upbuilding? If you have not caught on yet you will later, for we have only begun bugling for the charge on these lines of profit. And just now we wish you to get this heat into your boxes: the Panama-Pacific Exposition for the next month and more is to be a live stock college, which it will only cost a few dollars to enter and graduate from — with a diploma printed on the inside of your skull. Our special stock writers will keep you informed of the particular things which will happen at the Exposition during the coming weeks. It is our function only to sound the tocsin; and that cries out that to see all kinds of stock judging (the most concrete way to demonstrate excellence), to hear all kinds of live-stock talk and to become personally acquainted with many of the greatest stock men in the country, is to stay long at the fair and to get some harder knocks on the head than were ever laid on at Donneybrook! It is to be a great occasion for demonstrations, for discussions, for essays and details of organizations, and its educational value cannot be exaggerated. We have hope also that out from so great occasion will come something a preparation for trade in live stock, by the growers thereof, which will place them at much better advantage on the marketing side than they have been hitherto. Therefore take a course at the Fair if you can and you will better understand some of the things we shall be writing about.

A Revel in Rural Credits.

For about ten days California promoters, developers, financiers and publicists have been fairly reveling in rural credit discussions and inchoate transactions. Last week we gave advance intimation of it in the reference to the International Irrigation Congress which has been flowing over the state like a main canal out of its banks, and has had a lot of fun and some edification from its outbreak. Naturally this body, which brought forth the U. S. Reclamation Service, has taken to rural credit discussion like a duck to water, because this Service has to be re-financed, perhaps through no fault of its own, because it cannot come through with the funds now in sight or likely to be secured by resources hitherto productive. Ex-ambassador Herrick, whose publications constitute him a leading authority on the subject in this country, told his audiences that he had the conviction that the only way sufficient money could be secured for reclamation would be by selling long-term, amortizing debentures upon the lands reclaimed, and he believed government credit would be properly used in carrying through such development enterprises for the good and advancement of the whole country. He thinks such debentures, bearing three or four per cent interest, could be sold to whatever amount the making of productive land out of deserts and swamps could be reasonably carried, and settlement on such lands would be rendered practicable and profitable, because of the very small annuities which would be required to meet the low interest and the small amortizing payments to wipe out the obligation in the course of seventy-five years—on the European plan. This is of course a great national plan which political conventions will be planking and Congress will be tearing up, for a decade perhaps. It is an imminent question no doubt, but rather remotely imminent as compared with other phases of the rural credit question which both Congress and state legislatures have on their carpets.

Immediately Pending Questions.

Through the calling of an election for votes on proposed constitutional amendments, the first rural credit issue to arise squarely before the California people is that of allowing state credit to be used in land improvement, sub-

division and settlement. The vote on this question, if we are correctly informed, will come on October 26th in all precincts in the state, as noted in these columns last week. As soon as we get the text of this amendment and the authorized declarations for and against it, we shall put the matter definitely before our readers. It is now announced that Mortimer Fleishhacker of San Francisco has been added to the names printed last week as constituting the advisory committee on rural credit legislation provided for by the last legislature. This committee is to report before October, 1916, and while its report will probably be determined largely by the result of the vote on using state credit for colonization, it will still have many things to decide. We trust that either before or after the sky is cleared by the October election, this committee will hold public hearings and endeavor to bring the subject a little closer to the farming industries and a little farther away from statesmanship, development, etc. No one has now any idea whatever what the farming interests, in whose name this legislation is invoked, desire and we shall not be surprised if they knock it all endways unless some attention is paid to their convictions and circumstances. In fact, we cannot see how they can be rationally expected to do anything else with it. It is being wished onto them by the publicists. So far as public records go we have not seen an intimation that a single man, known to be a farmer more than anything else, has been asked to contribute his opinions and experience on a State-wide endeavor which is being promoted in his name. We do not say, of course, that for this reason it may not be for the good of the State. We simply remark that he is not likely to vote for a thing affecting his business, as this does, which is wholly vouched for by outside people.

Money for Operation and Improvement.

All the foregoing applies to long-term rural credit for development, for the landing of the landless man and all that. Theoretically, that matter is more for the general good than for the present-producing farmers' good, and that may be the reason why it may have to be wished on him. It is a great, humane movement for nation-building, and the former has the patriotic interest in it which other good citizens have, but it has hardly more direct connection with fair-finance for existing farmers than the memories of the old olive trees in Gethsemane have to do with properly circumstancing the ripe-pickled-olive industry of California. It is statesmanship: it is loaded with politics, and as all political parties have platformed themselves in favor of it, the only question among them is which one will beat all the others to it. That is the reason why 1916 presidential possibilities of two national political parties, the G. O. P. and the Progressive, philosophically embraced each other on the Exposition platform of oratory—the Democratic possibility being too busy preserving rational neutrality at Washington to be available. Our attitude toward this race for rural credit is: devil take the hindmost!

Quite another matter is the struggle which the present generation of food producers should be resolutely making for money for better production on terms which will make that better production possible and profitable. Read an article on another page about "money for beef-growing," which indicates what is required also for development of dairying, fruit production and every other kind of production. There is a popular belief that agricultural security is fundamentally best of all and that exactions of money lenders from farmers must be done away. We believe they will be done away, if producers present organized force and collective security. This is the reason why we attach so much importance to the movement among our fruit exchanges, led by S W. Baker of the California Cured Fruit Exchange, as outlined in our issue of August 21. We understand that Mr. Baker is receiving enthusiastic responses. This is the form of rural credit which has least politics and most business in it, and it contains the issues which should be settled first of all. As James Madison of the Raisin Growers' Association said at one of the meetings: if you can organize and circumstance the producers so that they can produce economically and sell their product profitably—that fact will settle nearly all the other problems. We are keen for securing that fundamental condition. Without that the best we can do for humanitarian and statesmanlike development of agriculture may be but a parody on the hog-and-corn philosophy of the Middle West; viz., to make more farmers to grow more crops to get less money, to make more farmers to get less money — and less money still, to the vanishing point, at which all your promoted farmers will go to the—I. W. W. But this catastrophe will never be reached, because farmers will rise in their might and effectively organize for their own finance and marketing. As they succeed in this, securing whatever legislation may be necessary to its accomplishment, state undertakings for assisted farm development, will become rational and statesmanlike.

Queries and Replies.

Querists must give name and address

Where "Pusley" Grows.

To the Editor: Kindly let me know the name of this weed and how to get rid of it. I have some of it in strawberries and where I water the berries it will not die when cut and thrown on top of the rows.—Subscriber, Capitola.

The plant is purslane, commonly called in humid climates "pusley" and considered the meanest weed in the plant world—in fact to call a man "mean as pusley" is the last word for him. Refusing to die when desired to do so, is one of the old tricks of pusley. Pull it out or cut it out with a hoe and feed it to the pigs or chickens. It is good for them, and they are the best things we know of for "pusley." The reasons why we have so little of it in California are two: it does not like dry heat; it is kept from seeding by our clean summer cultivation. Your free surface-watering in a moist coast climate gives it a chance for life which it does not widely enjoy in this State.

Spring and Summer Feed for Hogs.

To the Editor: I want to plant two separate fields of green forage crop for hog pasture to cover the periods from March 15th to May 15th, and from May 15th to July 15th, respectively. I have pasture of bur clover and wild oats and other natural grasses on which I can carry the hogs until about March 15th; and after July 15th I have oat stubble, etc. Will you kindly advised me the best thing to plant for the desired purpose, and when to plant same in order to have it during the period mentioned. I mention it as two periods instead of one, for I intend to have two fields, either of the same forage plant or different, if one can come later than the other, into which to turn the hogs successively.—Subscriber, Santa Rosa.

For your earlier period you can get good green forage from oats and vetch sown together early in February. For your later period we know of nothing to beat alfalfa. You can get good returns from unirrigated alfalfa on land which many people will tell you will not grow it. We have seen volunteer alfalfa growing rankly in fence corners in July on the farms of such people in your part of your county. Of course, if you can irrigate it you will get much more growth. Unless you are in a frosty place you can sow it as soon as your land gets wet by rains—if they are not delayed too long.

Wants Wisdom on Water Grass.

To the Editor: I see so many questions answered in a practical, common-sense fashion through the Press that I have concluded that what the Editor does not know about ranching, and conditions in California that ranchers get up against, never will be known. I would be pleased to see you state what you know about "wild millet," or "water grass," and how to hold it in check. Would plowing bury the seed so deep that it would not get out of the ground for a couple of months later than otherwise? Does all the seed germinate together, or does some hold over indefinitely, like wild mustard? —F. W. M., Orland.

Just how it is that strange plants, never noticed in the region before, appear and thrive wondrously when the soil conditions are radically changed, may be one of the things which you mention as likely to be never fully known. When dry land is made continuously moist or moist land continuously dry, the wild vegetation is likely to change radically. The change is sometimes so rapid that the inference is that the seed of the new plants is waiting in the ground for conditions which will wake it up, and it has been demonstrated that some seeds can remain dormant for a very long period. The plant to which you refer wild millet (Panicum crus-galli) has been noticed here and there in the interior valleys for decades. It has never become conspicuous because conditions were not right, but it has held on in water-holes or in corral corners, where water has been wasted, all these years, and it has kept on making seed which has been blown or carried by animals and birds all over the plains. It has lain dormant because the requisite amount of moisture and heat which it requires did not come together. There was moisture enough when the soil was too cold to start it and there was heat enough when the soil was too dry to start it. Now, when we start in flooding the land in the summer, as for rice, we combine the heat and moisture, and up it comes, and it beats the rice because it is a stronger grower and is more hardy. The land generally is probably full of the seed from the surface to the depth it has ever been plowed, and it is not likely you can bury it entirely for two reasons: you are not likely to plow deep enough nor to turn so completely that all the land which has ever been plowed will go to McGinty. You may, however, get a good deal of it below a starting point, and if you can start what is above and weed-cut you may get a cleaner bed for the seed you wish to sow, or if you practice rotation and let the land go back to a grain crop or a dry summer-fallow, you will reduce it very much. But you need not expect to get the start of all of it, but you may reduce it so that you can hand-pull what does start and thus keep fresh supplies of seed from the soil.

Olive Growers Organizing Statewide.

With last year's crops not yet paid for, and no prospects of selling the crops on the trees, it remains for a Statewide growers' organization to develop a taste for ripe olives in the Eastern markets.

[Written for Pacific Rural Press.]

Olive growers are organizing a Statewide association for the purpose of avoiding their present inability to sell the crops, and their present inability to get the money for their last year's crops. They are realizing that the past high tide of prosperity, which fell last year and gives no promise except to fall farther this year, is due to the present system by which no one will develop the market because that is expensive and would benefit the other fellow.

Though, as C. T. Worst of the General Advertising and Sales Agency of Chicago told about 70 growers at a meeting in Lindsay, Saturday, Sept. 11, if New York City ate as many ripe olives per capita as Oroville or Corning or Lindsay, California couldn't supply New York City, and though California has a monopoly of the American supply, and though we furnish only 1-5 of those sold in U. S., still the packers of California have half a million dollars' worth of last year's crop on hands and the producers are looking for last year's money and for this year's buyers. And according to Sec'y R. L. Underhill of the temporary State Ass'n the packers are estimating a 500,000 case crop (3,000,000 gallons) on the trees now, with 2,000 acres just coming into bearing; they say that the present market requirements would be for 200,000 cases, leaving 300,000 cases to be the additional carryover.

Poor Excuse for Any Carryover.—Whether these figures are right or wrong, whether the packers are continuing a game of starving growers into submission, it remains true, according to W. N. Woodson of Corning, that the Heinz Co. and the Maywood Packing Co. have disposed of their entire last year's crop by energetic salesmanship. There is no reason why all the olives should not be already sold. G. V. Reed, cashier of the First National Bank in Lindsay, told the meeting that he had made investigations showing that people east of the Sierras do not know a ripe olive. One wholesaler in Cleveland insisted that his stuffed bottled olives were ripe because olives were always ripe when they were picked.

Whether there is a heavy holdover or not, it is the province of the growers to have the information through their own organization, and to retain for themselves the profits now supposedly made by the packers et al., and to reduce the price to consumers so ripe olives would be in the food class rather than luxuries. Mr. Worst pointed out that they retail in the East at about 65 cents per pint, or $2,000 per ton—that they could be retailed at 20 cents, average, giving the grower $170 a ton average.

The packers haven't and won't develop the taste of Easterners for ripe olives. Overstocked as the packers claim to be, the officers of the temporary California Ripe Olive Ass'n asked their newly formed organization in Southern Cal. for about four gallons a day to distribute free at the World's Fair to develop a taste in Eastern visitors that would serve to spread the taste for ripe olives throughout their neighborhoods on their return home—easily $50,000 worth of advertising at practically no cost—but the southern packers could not spare their olives.

Growers Must Develop Markets.—If the packers won't develop the Eastern markets, as they haven't, we cannot depend on the jobbers or wholesalers or retailers to do it, for their ripe olive business is to the total of their business somewhat as a ripe olive is to the total on a tree, and if they cannot sell ripe olives they will handle something else instead.

If no one will develop the markets and see that "Mrs. Smith" in the East can buy food value in olives as cheaply as in meat, eggs, and bread, (20 cents a pint), then the olives will stay on the trees till they are uprooted—to be replaced, mayhap, with peaches.

But the matter is vital to the growers, and to the growers alone. Without state-wide organization, they could do little toward "cultivating Eastern markets as much as they cultivate their trees," but the 1200 to 1500 olive growers in the State (according to Mr. Underhill), if combined, could teach "Mrs. Smith" to call for 20 cent olives, and the growers could supply her at a profit and do it every year, by controlling the middlemen's profits. There is not much perishable about canned ripe olives.

The present movement for a California Ripe Olive Ass'n started at the Exposition on Ripe Olive Day when a number of growers and packers organized temporarily and elected seven directors from northern, central and southern California, who elected J. J. Avis of the Chas. C Moore (president of the Exposition) Co. as president and R. L. Underhill of Berkeley secretary. To make it a distinctively growers' organization the packers were later requested to resign, which they did. President Moore of the Exposition is one of the largest olive growers in the State and is planting more acreage. He donated postage and stationery, $135, and the use of his secretary and stenographers to send circular letters to all known olive growers in the State. The secretary gave his time to organization and Mr. Worst is a leading co-worker. Meetings have been held at Corning, Fair Oaks, Oroville, and Lindsay. One hundred and ten members, including much of the largest acreage in the State, had signed up previous to the Lindsay meeting. Fifteen signed up there, and half a dozen took the blanks home to consult, perhaps with their better halves, as the writer would do. Those of Lindsay who sign up after the meeting send their blanks to W. B. Kiggens of Lindsay, who gave his hearty support.

The officers of the temporary organization are ready to step out, when permanent organization is effected by an executive committee to

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composed of a delegate from each strict, elected by the signed up embers. No definite plan of action outlined and no by-laws drawn up that is left for the growers' representatives to decide, as the plan the organization was told by Mr. nderhill. Each member advances thin a year $15, which will later deducted from such pro rata per re assessments as may be necesry to carry on business until rns come from the first crop haned. The $15 is to be used for stage, organization expenses, adertising (including cultivation of a taste for ripe olives in Exposition visitors), stenographic work, etc.

The meeting at Lindsay was a success, largely due to the efforts of R. C. Merryman of Exeter, who had made personal investigation of the proposition and of the personnel of the temporary association, at San Francisco, and who presided at the Lindsay meeting.

One aged gentleman subscribed his $15 though he had only one olive tree, remarking that he had seen walnuts go begging in southern California before the Walnut Growers' Association was formed.

Avoid Upright Lemon Shoots.

Old settler cuts out vertical growth in October, leaving short stub to die back and kill dormant buds which would produce more shoots.

[Written for Pacific Rural Press.]

"I am seventy-five years old—so am, and I have brought into bearing five different patches of lemons." hus spoke H. C. Crumrine, to hose tender mercies we had been ommended last March by Dr. Mcinn, Baptist minister of Santa aula, Ventura county.

"I do not want to quarrel with ther folks or force my system of runing on them, but after I had ised four orchards to bearing, I ecided there had been something rong and I had better change my stem. I cut off what I had been aving on; I left on what I had been utting off—so I did. My last patch f lemon trees was seven acres orth of the house, which was lanted eleven years ago, and see, ook at those trees—lemons all over hem. Look inside—the inside is ull of them. Look at the top, at he bottom—there are lemons all ver them, and I picked 3068 field oxes from them and two acres of ld trees south of the house last nonth (February), that weighed 27,285 pounds at the packing ouse. In December, I picked 33,-40 boxes, and 43,605 boxes in November. I get more of a crop from ny nine acres than were picked rom the twenty-four acre orchard ust above. The seven acres of oung trees pruned according to my ystem produced 388 boxes per acre, while the two acres of twenty-four ear old trees across the drive, pruned according to the old system, ave 240 boxes per acre.

"The old trees, you notice, are full f those upright sprouts that everybody else has to cut out every year nd they always come up quicker han ever when they have been cut ut. I have to cut them out, too, rom these two acres, because the rees were not started right, but you notice in the young orchard there are very few of them.

"That upright growth that has to be cut out is waste energy both for the tree and for the pruners. It is fruit wood all right, but the fruit it bears is all in a bunch way up on the top, and it whips around so there is not much value in it and it is hard to pick. Better have all the fruit down in the main body of the tree and save the trouble of pruning each year.

"Most folks leave only three to five limbs at the head. Here in my young orchard is a fine tree with ten big limbs. See, here is the small fruit wood growing all way up and down the limbs clear to the crotch. The inside is full of fruit. Most folks would cut that lower wood out and leave all the fruit on the outside. You can see it in any orchard you pass here. I used to do that, too, but I quit it. I want to leave all the dependent limbs I can and as soon as I see a vertical growth well started, I cut it out, and here is the secret of avoiding the vertical growth in the older trees; cut it out in October or November when the tree is most dormant and leave a stub of an inch or two. During the dormant season the stub dries up and dies back. It prevents the growth in the spring of the dormant buds that may have been formed around its base. It doesn't prevent all the vertical growth, but it does some of it. That is why I do not prune in the spring, because the dormant buds would be ready to break out and go to growing as soon as the older vertical shoots were cut off."

WORKS CAPRIS ON WHITE FIGS.

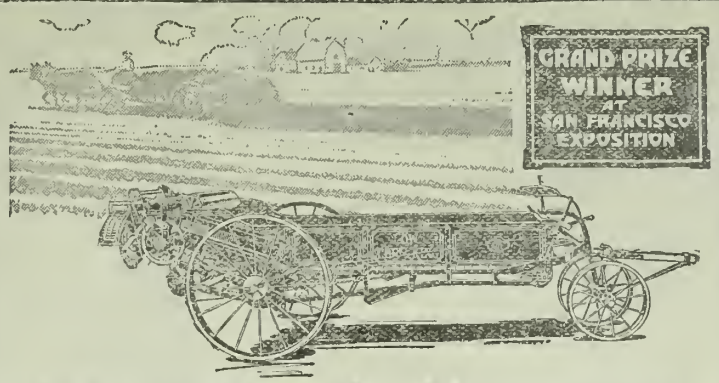
[Written for Pacific Rural Press.]

Lack of overwintering Capri figs has disheartened many of the Smyrna growers of Tehama county, and set G. B. Abbott to thinking. He grafted and budded some big Adriatic trees in recent years to Capri figs; now a good growth of the grafts has completely covered the stubs and the buds are working well over the cuts. Very few scions or buds failed to grow.

He sawed off the limbs for grafting when the sap was starting to flow in the spring. A long triangular slit was cut in the bark at the top of the stub and the scion cut to fit the triangle closely. New growth on grafts must be topped back during the first summer or they will break their connection. Mr. Abbott prefers, however, to bud by the ordinary deciduous system because it is easier and he can do it any time the bark slips, all through the summer. Last winter was the first in which he had a Capri crop to winter over.

QUEENS ON OLD OIL OLIVES.

Old oil olives fortunately budded over to Queen olives three years ago on a ranch near Corning are developing a fine crop of big olives in the season of 1915, which are sold for $200 a ton for all 15-16 in. in diameter. Budding is done in April when the sap starts to flow.



International Harvester Manure Spreaders

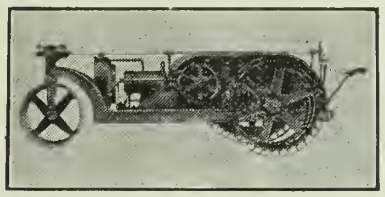
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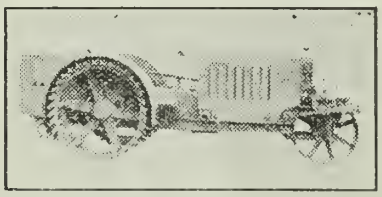


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Confidence in Deciduous Fruits.

Naturally the fruit business of California, which is a world affair, is affected by the half-world war. The results of the war cannot increase competition in the world supply of fruits, but may open new opportunities.

The nursery trade is a very delicate barometer of the public attitude toward fruit planting, and it is widely interesting to know how the mercury stands. In their report to the California Association of Nurserymen, the committee on deciduous fruits, consisting of Max J. Crow, W. T. Kirkman, Jr., and D. J. Boone, made the following points:

Conditions appear favorable for fair prices for all deciduous fruits with the possible exception of dried peaches, which, as is well known, have been unprofitable to the growers for several years. In consequence, thousands of freestone peach trees have been grubbed out or worked over within the last two years. Notwithstanding, there has recently been considerable inquiry from prospective planters with the idea that the market will soon turn and that the man with a freestone peach orchard will really be the fortunate one.

Clingstone peach trees should sell better than freestone and there will probably be a fairly good demand notwithstanding the fact that the canneries are largely overstocked at this time. This is the result of inability to ship canned goods to European points as usual. However, there is a general tendency among the larger canning concerns to build new warehouses and store their product, expecting that there will be a tremendous demand for all food-stuffs as soon as the way is cleared for shipping into Europe.

The unsettled and very unsatisfactory condition of the wine market, caused by the war and the prohibition wave, should greatly stimulate fruit tree planting. Last season thousands of acres of vineyards were set to orchard, the trees being planted among the vines with the idea of retaining the vines until the trees come into bearing; and indications are that many more vineyards will be so planted this coming winter. Therefore, it is our opinion that the demand for trees suitable for this purpose will be quite heavy. Prunes and apricots seem to be the favorites for planting among vines and unless there is a bad slump in the prices of these two fruits, nurserymen may expect at least the usual demand for the trees.

The general impression is that almond and Bartlett pear will probably be our most valuable varieties, and that there will be a normal demand for trees of shipping plums, nectarines, figs, etc. Indications are for a light demand for grape vines of both table and wine sorts, though this may change within the next few months.

Summing up the present situation we can see no reason for discouragement among our members. While just at present the outlook is not particularly bright, yet conditions do not appear to be as bad at this time as they have been in some previous seasons and we would not be at all surprised to see the coming selling season turn out to be really very satisfactory to the nurseryman.

We feel that California orchardists have every reason to be entirely satisfied with their profits during the last decade; no other line of agriculture has averaged better anywhere in the world; and while the present outlook is far from satisfactory in some respects, yet the future was never so promising—there was never a better time to plant new orchards.

The orchardists of this state have an absolute monopoly on at least two of our most valuable fruits, the sun-cured prune and the apricot, for nowhere else in the U. S. can these fruits be grown and dried in competition with the California product. And every indication is for increased demand; the European production of prunes is bound to be seriously curtailed for a number of years after the present war is closed; our own population is increasing at the rate of about one million per year and the consumption of our dried fruits is increasing in proportion; new foreign markets are constantly being opened up; the Panama Canal will permit of placing our products on the European markets at a considerable saving in freights, and as soon as conditions become normal there is every reason to believe that the orchardist will receive better prices for his product than ever before.

Of course, the old, old cry "Overproduction," slaps the nurseryman in the face every so often. And yet it is an indisputable fact that our fruits are bringing better prices today than twenty years ago and it is also a fact that the planting of deciduous fruit trees in this state is scarcely more than keeping pace with the trees which are passing their day of profitable production.

KILLING WEEVILS IN BEANS.

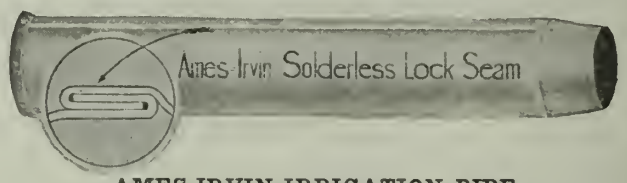
To the Editor: I have heard that there is a method of killing weevils in beans with formaldehyde practiced in Ventura county. Will you tell us what it is?—Reader.

[Answered by W. B. Parker, Farm Adviser, Ventura.]

So far as I know there is no method of processing dried beans with formahldehyde which will protect them against insect attack. In the first place the weevils enter the beans in the field, are carried in sacks to the warehouse where they multiply very rapidly. Eggs are laid on the dry beans, and the larvae enter the beans; in a short time the infestation may become quite severe.

While in the government service I was working on the use of heat to kill the weevils in beans. The data is being completed by R. E. Campbell at Haywards. We constructed a machine which was to be placed at the end of the cleaning machine, and the beans when passed over this were raised to a temperature of from 145 to 150 degrees F. When they come out the weevils would probably be dead and the beans could be put into insect-free sacks, and stored in insect-free warehouses. Our experience led us to believe that 150 degrees, or thereabouts, was sufficient to kill all forms of the weevils in the beans. The germination of the bean was not affected by these temperatures.

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Quicker Raisin Drying.

[Written for Pacific Rural Press.]

At the season of raisin drying, there are likely to be occasional showers which seriously reduce the value of the raisins. Time saved in drying them is therefore of great value.

When the advantages of a system are so obvious and the extra work required is so little, it is strange that not over half of the people in a district adopt that system.

Many of the raisin vineyards in San Joaquin valley are prepared for drying quickly, by throwing up a ridge running east and west along the north side of the space between rows. When trays are laid with one end on this ridge, they bridge the furrow, leaving considerable air space under them, and they present their surfaces covered with grapes squarely to the slanting rays of the sun, thus getting their maximum effect. The space centerly under the trays enables them to be picked up for turning, without picking up a handful of dirt.

A still better system for drying raisins quickly is to run a V-shaped clod crusher along the ridge to make a flat surface sloping southward as wide as the trays are long. This gets good and hot before the trays full of grapes are placed on it. This heat of the ground helps to dry the grapes from beneath, finishing them more evenly and quickly.

PAPER RAISIN DRYING TRAYS.

The cheapest equipment consistent with first-class results and economy of effort is the most profitable, because it reduces the losses of interest on investment and depreciation. These are not the only advantages of paper for raisin drying. Often enough wooden trays cannot be had when needed. More time is required to stack wooden trays in case of showers, than to roll up paper trays. The heat of the sand acts through the paper more quickly than through wood.

Tray paper is bought by the ream in bundles. A bunch of the sheets are laid on top of a wooden tray in the vineyard. The top sheet is lifted and some dry dust thrown under it to make it slide easily, later, when it is loaded with freshly picked grapes. The ground is usually smoothed with a clod crusher or sloped toward the south, in alternate rows, with a V-shaped smoother before picking begins. The loaded sheet is pulled sidewise from the pile of tray paper onto the smoothed sand and the next sheet dusted for its load. There is a little extra work in turning the raisins, for the sheet must be slipped back onto a wooden tray and then turned as usual. When the raisins are dumped into sweat boxes, the papers are thrown away, to be later burned with the prunings. This avoids loading wooden trays on a wagon, hauling them through the sand to a shed and stacking them for a year.

PEACH DRYING HELPED WORKERS.

"I am drying my peaches," says W. N. Woodson of Corning, "for I figure that the price cannot go much lower and if I hold them awhile I will get enough to pay the labor of drying and have something left for the fruit."

G. B. Abbott figured the same way, playing safe by offering folks work if they wanted to do it and wait for pay until he realized on the peaches. This many of them were willing to do. It was a good proposition even if the drying paid only the labor; for the folks wanted the work and there was very little danger that the labor would cost more than the peaches would bring.

PEACHES WASTING; TREES DECREASING.

As we have traveled up and down across the State, we have observed great quantities of peaches falling to the ground and rotting. Many orchards were allowed to overbear and the trees are broken into all sorts of pieces. Not only do the trees suffer from the broken limbs, but also from the sunburn to which the remaining bark is exposed. The fact that so many people are neglecting their orchards or pulling them out, and that so many are letting this crop go by the boards, makes it reasonable to expect that the holdover which has been used as a club these six or eight years since it began to exist will disappear this year and peach prices take on a more normal aspect next year.

R. C. Merryman, who has sold olives for three years on a ten-year contract, was told by his packer recently that they had half of last year's crop on hand and could not carry out their contract unless they could sell the olives. Mr. Merryman suggested this at the meeting of olive growers as an urgent reason why the growers should organize to develop the markets on which their own prosperity most depends.

Grafted trees have sent up many sprouts which should be cut off close now if not already looked after.

The hold-over of olives, about which we hear so much, consists mostly of the smaller undesirable sizes, according to R. L. Underhill, secretary of the California Ripe Olive Association.

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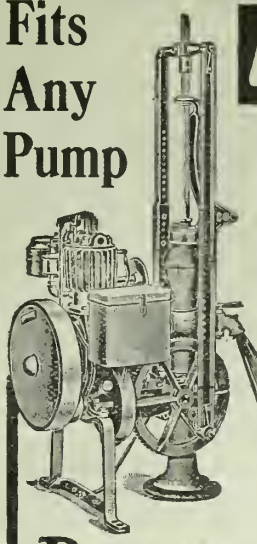
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Our nursery is in the Sierra Nevada mountains, altitude 3000 feet; our stock is magnificent, and every pear tree is grown on

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which reduce blight danger and simplify blight control. Unless you use such stock you waste money planting pears. We are

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but handle a complete line of nursery stock, and it will PAY YOU WELL to address postal NOW for our catalogue. It contains a short discussion of pear blight and explains the advantages of Resistant Roots.

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A. L. Wisker, Manager.
Grass Valley - California

Mechanical Power on the Farm.

[Written for Pacific Rural Press.]

SELF-PROPELLING WELL DRILL.

A well-boring outfit partly assembled from pieces of other machines is being used by A. O. Dokken of Colusa to put down a 300-foot well on the Tweed ranch in Glenn county.

A 16 h.p. Samson marine type engine is set on a 3x10 frame about 20 feet long, the front end of which rests on a single big wheel while the back end holding the 30-foot derrick rests on two wheels taken from some old tractor.

The machine is rigged to these wheels so than when it is not used in boring, it may be thrown in gear to propel itself and the whole outfit to the next job. Extra tools are loaded onto the wagon and hitched behind the outfit in moving.

On the Tweed ranch they were putting down a 16-inch casing and were boring out the clay over 100 feet deep at a very rapid rate. The casing is forced down by a hydraulic jack worked by a Keystone pump situated among the rigging. Mr. Dokken and one man run the outfit at a cost of $12 per 10-hour day for labor, oil, and 10 gallons of distillate. He has put down over 200 wells and never lost one. The outfit, including engine, jack, tools, derrick, and boring machine cost about $4000.

OLD CATERPILLAR ENGINE PUMPS.

His old 45 h.p. Caterpillar motor was too small to suit G. W. Gibson of Colusa county so he took it off and had a bigger one made. He mounted the old one on an I-beam frame big enough to hold the engine and a shaft from it 6 feet to a belt wheel 2 feet in diameter. This is connected to a 7-inch centrifugal pump by a vertical drive shaft held stiff by the timbers on which the engine frame rests, so that the engine frame may be jack-screwed forward or backward to loosen or tighten the belt. A jack against a post on the opposite side of the engine frame prevents it turning "catawampus."

The water is forced through 2000 feet of pipe to irrigate the alfalfa, etc., so the outlet pipe is about 16 inches in diameter to avoid friction of the water which would require more power. Though the well is 1100 feet deep, no water comes from below 600 feet and it rises to 50 feet below the surface.

Not all the power that could be developed by the motor is used because it is set to run only 320 revolutions per minute, though built for 550.

"We could run it still slower if we had a larger belt wheel on the engine, but had to take it off because we needed it elsewhere. Slow running is the life of the machine. Twenty-five gallons of distillate supply it for a day of 13 hours."

GRINDS AND CHOPS STOCK FEED.

Ground grain for calves, cows, pigs, and horses and chopped straw for the five horses are considered profitable by Mr. Tweed of Willows; but he lives several miles out of town and it would be extravagant to haul the grain thither for grinding.

A 5 h.p. electric motor runs a grinder by one belt which runs to a wheel above the line of another belt running to the straw chopper so that either one of them may be used without moving the motor, simply by removing the other belt.

NO HAND PUMPING FOR DAIRY.

The question of having fresh water for milk-cooling operations and for livestock is a serious one where the water has to be pumped by hand. But N. E. Mulick of Willows has a small International gas engine which forces water into a tank on a tower, whence it runs to the barnyard. Fresh water is also run to the separator room for cleaning purposes and for use on the milk cooler.

ON FENCING PUBLIC LANDS.

To the Editor: What is the law and court decisions regarding fencing government land not in the forest reserves? Is one allowed to fence across public domain and include a portion of same while fencing one's own land? Is one allowed to fence one's land (staying entirely on one's own property with the fence) which may include some public domain? Is one allowed to construct a "drift fence" which may keep others' cattle from the use of public domain? In other words, does the law look any differently on drift fences? Does one have to leave gates or lanes for public use across one's property for the use of stock in crossing to public domain, no such pass previously existing? Assuming you have a township plat before you or in mind, is the owner of secs. 1 and 11 compelled to allow an owner in sec. 2 a right of way across his land in or-



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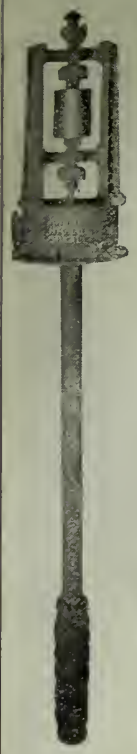
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For bored or drilled wells from 10 inch inside diameter up; and for capacities of 250 3000 gallons per minute. Built for pumping from any depth to and including 250 feet.. They are absolutely water balanced and are self-aligning. More water can be obtained from such wells than with any other type. Built in belted or direct motor driven types. If interested, write for Bulletin.

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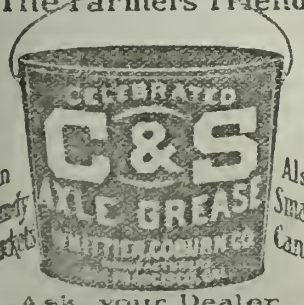
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for underground irrigation system, city water mains, mining, etc This pipe is manufactured in sections ten feet long—two sections being riveted together—making only one round seam in twenty feet as against seven round seams in the short length pipe made by others. We have all diameters on hand in large quantities. Also all fittings, etc. Catalogue free.

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Stock Tanks & Silos. Lumber direct from the forest. A tank 4x3 ft., $6.50; 5x3 ft., $7.50; 6x3 ft., $9.00; 8x3 ft., $12.75. All other szes in stock and equally cheap. I sell direct to the consumer Trays, Box Shook. You will save not less than 10 per cent by trading with me. Doors, Windows, Mouldings. 35 yrs. in this business.

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These pumps represent the highest development in water machinery. Write for booklets. Luitwieler Pump. Eng. Co., 713 N. Main, Los Angeles.

der that owner of sec. 2 may use sec. 12, which is public domain? — H. V. N., Red Bluff.

[Answered by J. D. Yelverton, chief of Field Service, U. S. General Land Office.]

To the Editor: Referring to the letter of H. V. N., Red Bluff, California, you are advised that Sec. 1 of the Act of February 25, 1885, 23 Stats. 321, provides:

"That all enclosures of any public lands in any state or territory of the United States heretofore or to be hereafter made, erected or constructed by any person, party, association or corporation, to any of which land included within the enclosure the person, party, association or corporation making or controlling the enclosure had no claim or color of title made or acquired in good faith or an asserted right thereto, by or under claim, made in good faith with a view to entry thereof at the proper land office under the general laws of the United States at the time any such enclosure was or shall be made, are hereby declared to be unlawful and the maintenance, erection, construction or control of any such enclosure is hereby forbidden and prohibited; and the assertion of a right to the exclusive use and occupancy of any part of the public lands of the United States in any State or any of the Territories of United States, without claim, color of title or asserted right as above specified as to enclosure, is likewise declared unlawful, and hereby prohibited."

Section 3 of the same Act provides:

"That no person by force, threats, intimidation or by any fencing or inclosing, or any other unlawful means, shall prevent or obstruct, or shall combine and confederate with others to prevent or obstruct any person from peaceably entering upon or establishing a settlement or residence on any tract of public land subject to settlement or entry under the public land laws of the United States, or shall prevent or obstruct free passage or transit over or through the public lands."

The courts have held that drift fences which prevent free access to the public lands are also unlawful.

The question of right of way over lands which are in private ownership is one over which the General Land Office has no jurisdiction. Such matters are for the local authorities to decide.



The ELECTRIC SIDE OF THE FENCE

is the side where the corn is *big* and the labor *little*.

G-E motors driving irrigation pumps mean *big* crops.

G-E motors driving farm and dairy machinery mean *little* labor in handling the big crops.

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A G-E motor will do the work of six men at less cost than the wages of one. Its first cost is less than one-third that of a good horse and it will do more than eight times the work in a day.

Booklet No. 3166 will show you how G-E motors will *increase* your *profits* and *lessen* your *labor*.

Ask your local power company or our nearest office.

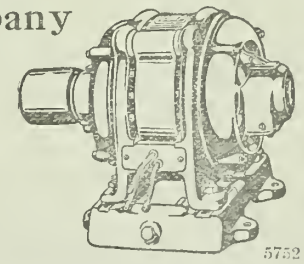
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(Lennon Type)

the wooden cross bar is not an essential portion of the joint. It is not required at all in the smaller and medium sizes, and in the larger it is rarely necessary to space them as closely as the flume sections.

Neither is there any necessity for boring holes through the cross pieces for inserting the ends of the rods, for those bars can be placed after the erection of the flume, as shown in the illustration.

Armco Iron Flume (Lennon Type) furnishes a reliable and lasting installation.

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417 Leroy St., LOS ANGELES 406 Parker St., [illegible]

General Agricultural Review.

CITRUS AND SEMI-TROPICAL.

A banana plant in bearing is attracting much attention on the property of Mrs. Nellie Mott of Newcastle.

During the past season 1,434,236 packed boxes of oranges and lemons have been shipped out of Pomona Valley by the Exchange Packing House.

Plans are under consideration for the organization of an irrigation district comprising about 2000 acres in the orange land of the Thermalito colony of Butte county.

Tulare county oranges slightly infested with scale last year are seriously infested this year, and fumigation is practically universal, only fumigating machines being used.

It is announced that the Superior California Citrus Exchange will support the eight-to-one ruling of the United States Bureau of Chemistry in making shipments of citrus fruits.

Horticultural Commissioner Chas. Collins of Tulare county is authority for the statement that it was demonstrated beyond doubt last season that fumigation is the only practicable way of reaching fruit scale on the tree.

At the annual meeting of the Lindsay Packing House Company held recently, the following officers were elected: H. C. Morrison, president; G. V. Reed, vice-president and treasurer; T. E. Anderson, manager; R. E. Eddy, secretary.

The Mutual Orange Distributors' Association of southern California plan to erect eight new packing houses during the coming year at East Highlands, Sunny Slope, Duarte, Lindsay, Glendora, Naranjo, Yorba Linda, and San Fernando.

A local association of the California Fruit Growers' Exchange was recently organized with headquarters at Dinuba and a packing house at Sultana. C. C. Threlkelb was elected president and E. S. Scruggs, secretary. Its fifteen members control practically all of the citrus fruit in the Dinuba, Sultana, and Orosi districts.

A report collected from all the big eastern auction markets recently showed that for the June Valencias, the Exchange sold on all auctions 192,693 boxes, whose average price was $3.45. Other shippers during the same time sold 98,255, at an average price of $3.13. These oranges came from the same districts, were the same sizes, etc., as the Exchange oranges so that the difference of 32 cents per box is considered directly due to the uniform pack and the advertising of the Exchange brands, which are the "Sunkist" and "Red Ball" oranges. The report goes on to say that there was three to 46 cents a box difference between the Exchange advertised brands and others on the eastern auction markets during the six months from December to June, the higher price being always in favor of the Exchange.

DECIDUOUS FRUITS.

To date, 325 cars of pears have been shipped from El Dorado county.

Prune picking is well under way in Tulare county, and a bumper yield is expected.

To date, 450 cars of apples have been shipped from Pajaro Valley this season.

It is stated that Georgia ships practically twice as many peaches as any other state.

The Central California Cannery at Yuba City completed the season's pack on Sept. 16.

Many Kings county prune orchards are being pulled up on account of black knot on the roots.

The packing of prunes began on Sept. 20 at Chico; it is estimated that the district will produce 2500 tons this season.

W. A. Yerxa of Princeton is now harvesting his 40-acre prune crop, which he estimates will yield 240 tons, or six tons to the acre.

H. T. Davis, manager of the Corralitos Fruit Growers' Association of Watsonville, recently sold 90 cars in one lot to a San Francisco firm.

L. L. Hicok of Colusa says the prune crop in his vicinity is an average of former years, several orchards yielding from 4 to 5 tons to the acre.

The Nevada county pear shipping season is at an end; the season on the whole has been very profitable and growers have received good prices for their fruit.

The dried apricot crop in Orange county, according to a prominent grower, is cleaned up to within a nominal amount held by some half dozen growers. The price paid by buyers started with 4¾ cents a pound orchard run. But a few growers got 7 cents, the price reached last week. The average price paid there is probably close to 5¾ cents. With a small crop and a low price, every grower has been a loser.

GRAPES AND SMALL FRUITS.

Grape picking commenced Sept. 20th in the Napa Valley.

Mealy bug has been found on the vineyards of Kings county, injuring both grapes and vines.

The present season is said to be the best in the history of the raisin industry in Colusa county.

The sum of $2001 was received in the east for the sale of the first car of straight Lodi Tokays.

It is stated that thousands of tons of wine grapes are being dried in the Fresno section to be used as hog feed.

A consular report gives the official estimate of the new currant crop in Greece as 130,000 tons, with the quality of the fruit medium.

A bunch of Thompson seedless grapes 16 inches long and 9 inches wide was recently picked from the M. K. Jones' vineyard near Del Rey for exhibit in the Chamber of Commerce at Sanger.

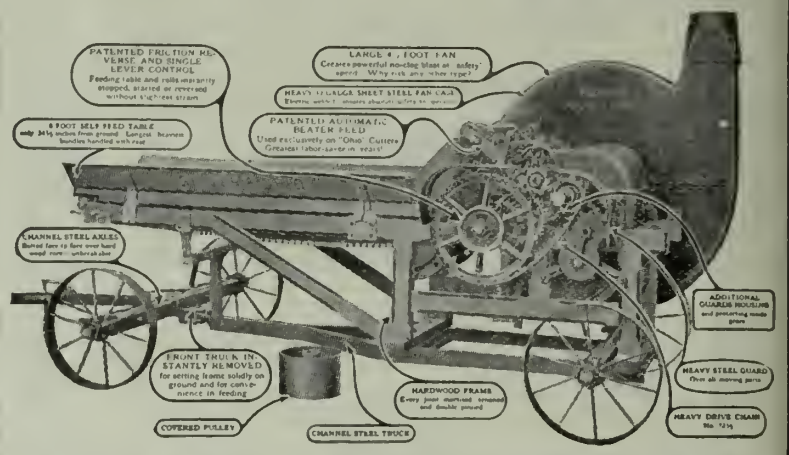
One arm 1¼ inches in diameter from an old vine in G. M. Flint's vineyard near Del Rey produced grapes and wood weighing 20 pounds, with very little wood growth beyond the last bunch.

A huge bunch of Thompson Seedless grapes was picked in the vineyard of J. W. Bale of Sutter county recently. It measured 18 inches in length, 33 inches in circumference, and weighed about 20 pounds.

C. W. Adams of Del Rey has a 60-acre vineyard 35 years old from which he harvested 87 tons in 1911, 87 in 1912, 60 in 1913, 45 in 1914, and was recently spreading trays for 100 tons of the 1915 crop.

It is reported that a fairly large percentage of the grapes in the

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The most complete line of Feed Cutters built today. The Ohio Cutter is the only machine with drive pulley, cutting cylinder, Fan and Fly wheel on one shaft; there is no transfer of power from knife shaft to blower.

The machine here illustrated is made in five sizes—12, 15, 17, 19 and 22 inch throat, making it the largest capacity and most powerful feed cutter made.

A regular Base can be supplied if so desired.

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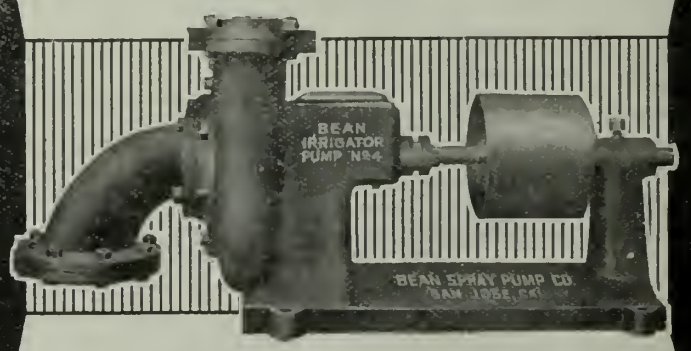
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Lack of water is not always the fault of the well—it is often the fault of the pump. No matter how good a well you have, if your pump is not right, if air leaks in around the shaft or if you have to tighten up the stuffing box till there's excessive friction, or if for any other reason your pump does not do efficient work—you cannot get the quantity of water your well should yield.

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The water-sealed stuffing-box prevents leakage of air and practically eliminates friction at this point. The automatic water-balance prevents end-thrust and does away with a lot more friction. And in many other ways Bean Centrifugal Pumps are built for downright efficient service.

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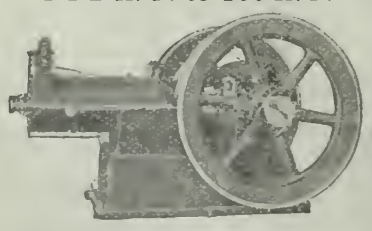
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NO CRANKING

Has as regular equipment a "built-in," gear-driven, positively timed magneto that is guaranteed for the life of the engine. EASILY STARTED on the magneto without cranking. Gasoline—Kerosene—or Distillate. Any woman can start and operate an ALPHA ENGINE.

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San Francisco. Seattle.

Everything for the Dairy.

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AGRICULTURAL LIME

Sweetens and improves mechanical condition of soils, improves fruit and cover crops, makes unavailable plant foods available, especially potash, in which California soils are rich, guards against acidity. Special freight rates to Central and Northern California points in carloads, from

A. M. BLUMER, Fertilizer Materials,

2200 Webster Street, San Francisco

California Garden Flowers $1.50 Postpaid Pacific Rural Press

Dinuba district that formerly were made into wine will he dried this season; they are mostly of the Malaga and Zinfandel varieties.

It is stated that the growing of currants on a commercial scale in the San Joaquin Valley is now practically assured as the result of efforts made by Geo. C. Husmann, pomologist, of the U. S. Dept. Agri. to interest growers in the industry.

The California Associated Raisin Company is making wine at the Parlier and St. George wineries, according to their agreement with the growers so that inferior grapes will not he made into raisins. So far, no definite plans have been made by the company to market the wine.

GRAIN AND FIELD CROPS.

Rice prospects in the section north of Live Oak are reported to he very promising at this time.

Sutter county growers have hegun harvesting their heans; the season's crop is estimated to be the largest on record.

Growers in the South Honcut District of Butte county expect an average rice crop this season of 70 sacks to the acre.

The Tweed Ranch near Willows is leveling land and sinking wells in preparation to sow a large acreage of rice next year.

J. J. Morris of Grimes, Colusa county, estimates his 75-acre field of Lady Washington beans at 25 to 30 sacks per acre.

Blackeye bean harvesting has just commenced in Colusa county; the crop is proving to be pretty fair considering the season.

A cannery for handling the surplus tomatoes raised there is under consideration for the Corral de Tierra section of Monterey county.

It is stated that buyers for alfalfa hay are coming in great numbers to the Los Molinos colony, many large orders being filled at $8.50 a ton.

As many as 12 tons of alfalfa have been cut from land that never received a drop of irrigation water in the vicinity of St. John, Glenn county, says R. T. Jones, a rancher of that place.

The Colusa county barley crop, according to A. E. Duncan, who did considerable threshing hetween Hamilton City and Princeton, was very light in both yield and weight, some sacks weighing only 60 pounds. A hot, dry wind caught it in the dough stage.

On account of the success thus far attained, the culture of beans in commercial quantities bids fair to become one of Tulare county's permanent industries. After experimenting with various varieties, the tepary has heen found the most adaptable to their conditions.

OLIVES AND NUTS.

The almond crop of Sutter county is reported light, about 60 per cent of normal being the estimate.

Mrs. Rosa Hann of Orland has found a new process for drying olives without the use of salt, making a very palatable article.

The Southern California Walnut Growers' Association voted to take no more members into their association after Sept. 25, and will announce prices for the season's crop on Sept. 30.

It is reported that some of the almond growers in western Yolo are establishing the industry of the manufacture of almond oil which is said to have a higher food value than olive oil.

The sale of 228 acres of land in the South Palermo district of Butte county to Messrs Weisman, Foley, and Woolf of San Francisco is reported; work of planting 100 acres of the land to olives will be commenced immediately.

A prominent grower reports that Orange county is well started on harvesting walnuts, and the Association packing houses opened on Sept. 20 to receive the crop. This will be lighter than late expectations, and not over two-thirds of early indications. There are many culls from the blight, and not a few from the codling moth. The sound nuts, however, will he of exceptional quality.

MISCELLANEOUS.

The Merced County Fair opens on Sept. 23, and will run for two days.

The Oregon State Fair will he held at Salem the week heginning Sept. 27.

P. F. Richardson of the Farmersville section of Tulare county recently shipped a carload of honey from his apiary to Kansas City.

P. R. P. Binders

The fifty-two issues of the
PACIFIC RURAL PRESS
you receive during the year form a volume of great value as a book of reference. Send for a binder, which will keep a year's issues in book form, ready for instant reference.

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Milk and Butter Coolers.

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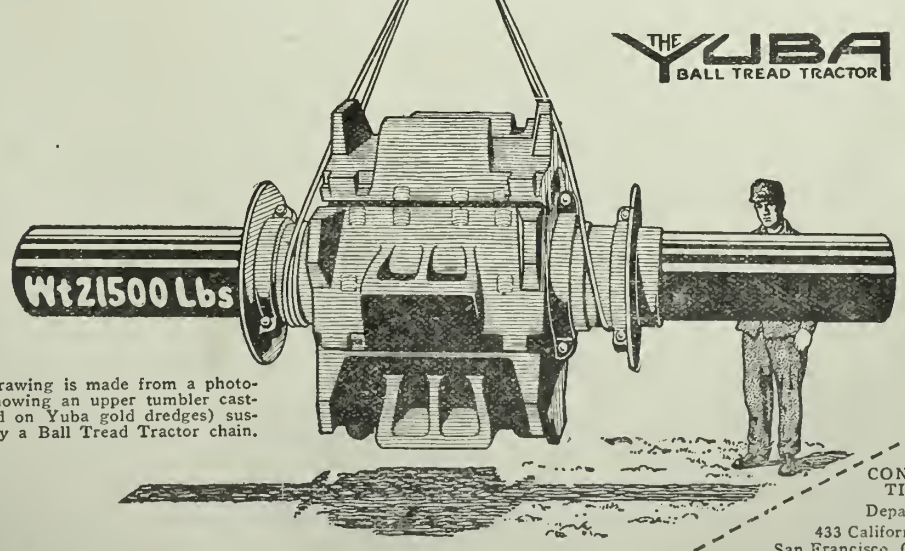
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A distinctive feature of the Yuba Ball Tread Tractor is the tread. It is of manganese steel—strong, durable, and highly resistant to abrasive wear.

The Yuba Ball Tread Tractor is built throughout to withstand more than ordinary wear and tear. It is able to resist the hardest kind of punishment, because expensive steels and skilled workmanship are used in the construction of it.

THE YUBA BALL TREAD TRACTOR



This drawing is made from a photograph, showing an upper tumbler casting (used on Yuba gold dredges) suspended by a Ball Tread Tractor chain.

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CHECK MAIN CROP RAISED
Size of Farm.....acres. Fruit.....Rice.....Grapes.....
Alfalfa..... Hops..... Hay..... Grain.....

Money for Beef Growing.

The Montana bankers get a straight talk about their attitude toward money for live stock growing. Why a man should be helped to turn feed into food and not have his security frowned upon. A good part of the talk fits California bankers at this moment.

Before the Montana Bankers' association this month, A. E. DeRicqles, general manager of the American Live Stock and Loan Co., today delivered an address on "Live Stock As a Security in Its Relation to General Business." In part he said:

"It may interest some of you, who are not familiar with the question, to know that 160 acres of alfalfa, producing three tons to the acre, will winter and take care of a number of cattle sufficient to eat the grass from 10,000 acres of the ordinary summer-grazing lands of Montana. This would mean about 400 cattle and twenty horses for the various operations in handling them. Now, it is a great deal better to produce such a property and utilize the grazing land than to confine oneself to producing 160 acres of wheat. To market these cattle, it is not necessary to be on the railroad; but after you get a certain distance from the railway with a wheat crop, the haul proposition enters into it, and grain alone does not enable you to utilize the rough lands in the neighborhood for pasture. This does not mean that I am a champion of the proposition of loaning everyone who has 160 acres of alfalfa sufficient money to buy 400 cattle and twenty horses, but this statement is made to show what it is possible to do, and what is being done continually in this country.

Financial Problem Serious.—In these new states most of the problems of the people are financial ones. So we find in some sections great quantities of hay and other feeds produced; and people are no better off than before they had it, because they have no means of securing anything to eat it. I know of thousands of tons of hay that have been allowed to go almost to ruin and waste in the states of Wyoming and Montana during the last year, because those who produced it could not get money with which to buy live stock. It should be an established situation that the man who owns his own place and raises feed should be able to borrow at a reasonable rate of interest, enough money to buy sufficient live stock to eat what he has produced. If such people could get this money when they need it, in the fall of the year, and in that way buy enough cattle or sheep to consume their crops, such operations would go a long way toward keeping railroad earnings up to normal, and do away with the present depressions in the big cities. It will do no good to loan cheap money in New York to a big merchant or manufacturer, if the man who consumes what the merchant in New York has to sell, and who may live away out in Montana, cannot get money to enable him to market what he produces.

Putting Out Much Money.—"At this time a great deal of money is being put out on live stock, because money is cheap, and people cannot find opportunities at home to loan it. This is not a good situation, because, as soon as money tightens up, this money will likely be taken out of live stock paper, and some one will get hurt. It is my belief that the best way to put out money on live stock is through the local small country banks in the vicinity of where the live stock is produced and being fed. This in event of the loaner not having an intimate acquaintance with the borrower. It is much better for the borrower, even though he may have to pay a little more interest, to get his money through his home bank than to seek outside and strange sources. Money can be loaned at a lower rate of interest through the home bank than it can be direct.

Borrowers and Time Money.—"At this time the borrowers do not object to the six-month maturity period; for they realize the restrictions of the federal reserve banks, and also that banks in the cities do not want to buy paper that runs longer than that, and it gives the one who is loaning the money an opportunity to keep track of the security, especially as regards winter preparations. However, even those in the banking business who claim to be well informed about this matter make very awkward rulings sometimes on paper offered to them. For example, we had one big bank, which was very willing to take a lot of our paper, send back a loan of $50,000 that had $100,000 security back of it, besides good indorsements, with the statement that it did not wish to carry it because it was not "self-liquidating." This loan included a lot of young steers which are sold for feeders every year at a big price, and the bank thought that perhaps such a man should make beef steers out of his yearlings, or turn them into some form of quickly convertible security yet unknown to live stock owners. Another bank, with wide information about live stock, absolutely turned down some paper that had three-to-one security, made by one of the best men in the West, secured by purebred cattle; saying that was not the kind of paper it could carry—it wanted something that could go to market and be sold as beef cattle.

What the Grower Needs.—"If you are going to do something for the benefit of the business of the country, make up your minds to help in this matter of financing the live stock people of the West; and that you are not going to ask a man who is raising yearlings to give you beef steers for security; and that you will not turn down men who have worked a lifetime to build up a fine herd of thoroughbred Hereford cattle, for the purpose of improving the herds of the West; but that you will look favorably on his paper and take care of some of it, if offered to you. Endless lectures and demonstrations have been given all over the country in connection with the best methods of handling live stock, and the proper kind to buy and handle; and people have been lectured by the hour in connection with improving their herds. Now, all of this goes for nothing if the man who is producing the very kind of breeding cattle talked about is turned down in his financial undertaking."

California's Opportunity for Dairymen.

[Written for Pacific Rural Press.]

THE LOSS OF SKIMMING CREAM THIN.

Few if any dairymen would purposely throw good skim milk on the ground or in the irrigation ditch, yet a system fully as wasteful is being practiced daily by a great majority of dairymen who sell butterfat to the creameries and its effect is more far-reaching than most of them suspect.

The loss is directly attributable to the practice of adjusting the separator to skim milk thin rather than heavy, it apparently being the notion of many dairymen that by so doing a larger per cent of the fat in the milk is secured.

That this is not true is established by numerous experiments; in fact, it has been proven that there is less fat left in skim milk which was skimmed heavy than when thin skimming was practiced. The greatest loss, however, is in the skim milk which is wasted, or rather given to the creamery.

An example of this was recently seen on a dairy where the separator was set to skim 17 per cent cream. This meant that in every hundred pounds of cream sold there was approximately 83 pounds of skim milk. On a neighboring dairy the separator was set to skim 34 per cent cream, thus cutting down the skim milk to 66 pounds in every hundred pounds of cream sold. On the first mentioned dairy there was being delivered 588 pounds of skim milk with each 100 pounds of fat, while on the latter named one but 294 pounds was delivered. This meant a difference of 294 pounds or over 36 gallons of skim milk to every 100 pounds of fat sold in favor of the dairyman who skimmed thin. As both dairies were selling about 30 pounds of fat a day this meant a monthly difference of approximately 2700 pounds of skim milk, or at a valuation of 25 cents a hundred, $6.75 a month or $81 a year. On large dairies this loss would of course be very much greater.

The loss of the skim milk as a hog, calf and chicken food was not, however, the only loss. Both dairymen were shipping by rail to the creamery and were paying the express charges.

In this as with the skim milk factor the dairyman who was skimming thin was the gainer as he paid express on 2700 pounds less a month than his neighbor. Then, too, his cream could be kept in good condition longer because it is not the fat that sours quickly but the skim milk in the cream, and the more skim milk the quicker fermentation starts. Where cream is graded, as it is by some few creamerymen at this time, the test is an important point and low-testing cream is seldom graded as A grade.

The above reasons, together with the fact that fewer cans and cooling tanks are needed for thick skimming than for thin skimming, show that the annual loss to the dairymen of this State from this source alone is sufficiently large to warrant immediate action on the part of the dairymen to remedy the situation.

SeriouslyNeeded

A letter received from W. H. Saylor, editor of the Pacific Dairy Review, speaks very, very highly of our

"California Hog Book"
By W. S. Guilford.

Here are excerpts from the letter: "I have received copy of the 'California Hog Book,' which I assure you is highly appreciated. I am reading it page by page and have worked up to about half of it, and find it both interesting and instructive. I am including it in our list of dairy and farm books, and hope we can help to swell the sales of the book that imparts a class of knowledge that is seriously needed among California farmers.

"Wm. H. Saylor."

This book contains 256 pages of text, besides many full page illustrations, is bound in cloth, and will be sent postpaid for $2 per copy.

PACIFIC RURAL PRESS, Publisher. San Francisco.

DISPERSION SALE
Registered Berkshires
at Public Auction
October 14, 1915.

At the ranch of F. C. Clark, Northeast of Willows.
14 Head of Brood Sows.
30 Head of Young Stock.
2 Herd Sires—Royal Masterpiece 13th, No. 181254; Brookline Master Lee 3rd, No. 161646.
Foundation stock was secured from Brookline Stock Farm, Aurora, Ill., one of the great show herds of the East.
For detailed information, Write
F. C. CLARK, Owner.
H. G. Harris, Auctioneer.
Willows, Glenn County, Calif.
Autos meet all trains.

Hopland Shorthorns
Hopland Berkshires

All Stock Registered.
Bulls of Highest Quality.
YOUNG SOWS AND BOARS of finest Breeding and Type.
Prices on Application.

HOPLAND STOCK FARM
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REDWOOD TANKS
SILOS
Water Troughs, Windmills, Frames, and Towers. Steel and Wood. Prices the lowest.
BROWN & DYSON,
640 So. Center St., STOCKTON, CAL.



HORSE OWNERS! USE
GOMBAULT'S
CAUSTIC BALSAM.



A safe, speedy and positive cure. The safest, Best BLISTER ever used. Removes all bunches from Horses. Impossible to produce scar or blemish. Send for descriptive circulars.
THE LAWRENCE-WILLIAMS CO., Cleveland, O

BLAKE, MOFFITT & TOWNE
Dealers In PAPER
37 FIRST STREET, Blake, Moffitt & Towne, Blake, McFall & Co.,
SAN FRANCISCO Los Angeles Portland, Oregon

Mutton Sheep for Small Farmers.

[Written for Pacific Rural Press.]

PURE SHROP SIRES IN FIFTEEN YEARS.

Four Merino ewe lambs left at John Wannop's gate near Chico one day 15 years ago became his wife's pets. Mr. Wannop had raised sheep in the old country in the years gone by, and even yet not all of the bur has gone from his speech.

The thrifty growth of the lambs suggested the buying of a purebred Shropshire buck, and the offspring has been bred in each of the succeeding years to a different purebred Shropshire buck. While the offspring of his ewes can never be registered as purebreds, they are very high grade and are fine animals, due to the persistent use of purebred sires.

By sheltering the ewes every night about lambing time and attending to them himself, Mr. Wannop has raised 55 lambs this year from 45 ewes, 122 per cent, having lost only five. This, too, from ewes nearly half of which were raising their first lambs. He prefers not to have twins the first time because one of them is pretty sure to be a weakling.

Lambs Need Shelter.—One day about two years ago, Mr. Wannop had to be away from home one bright afternoon and evening. It was so late when he got home that he did not put the ewes inside as usual. About 2 a. m. a cold rain started and in the morning he found dead, 10 fine, big lambs dropped during the night.

Lambs are now bred to come in January or February, or "earlier if one can care for them in lambing," and rams are sold at 8 or 9 months old for breeding at about $20 each.

When visited in August, he had 25 pretty young rams on alfalfa pasture from which three crops had been cut without irrigation before the sheep were turned on.

Young Bucks, Easier Lambing.—"I expect to sell all of these young rams by October 1; but if I do not I will keep them over till next year," said Mr. Wannop, independently. "Many people prefer bucks over a year old, but I prefer them younger rather than older. With those about 8 months old, there is no trouble in lambing; but if the buck is over a year old the lambs have too big heads and many must be pulled from their mothers."

His $50 buck bought this year from Bishop Bros. of San Ramon was turned out with the 45 ewes and 25 ewe lambs in August. The ewes at that time were on the pasture most of which was Napa thistle, and were keeping fat.

A couple of weeks before lambing, they are shut up and fed a little grain and bran to loosen them up so that they will have less trouble in lambing; mothers with lambs are turned into pasture and allowed to take care of themselves. After weaning, Mr. Wannop turns them onto alfalfa, but he says they will thrive on any other kind of pasture, too. Some fields he has on which grain grows one year and weeds are allowed to grow the next year, making good sheep pasture.

Ten Acres, 50 Sheep.—"You can run sheep where you can't run anything else, but they do better if they have good feed all the time. Ten acres of alfalfa will support 50 head."

Shearing comes in April and again in late August; the weather is too hot to hold the wool on a year, and anyhow the fleece gets ragged and begins to pull out around the neck.

"In the old country we used to run sheep through a water-hole about four times to clean the wool before shearing. I believe in time we must all produce clean wool here in America."

There has never been a particle of disease and no trouble except pulling an occasional foxtail out of the eye. The sheep are kept as much as possible away from the foxtail.

CULL SWEET POTATOES.

[Written for Pacific Rural Press.]

Hogs to eat cull sweet potatoes are a paying proposition in the San Joaquin valley. The culls would be good for nothing else, but they are as valuable as corn, according to Geo. F. Woods of Ceres. And crooknecked squash is just as good. He started to fatten a lot of a dozen hogs weighing about 125 pounds Sept. 1 last year. On Nov. 20, he turned them off at the age of 10 months and 4 days, averaging 277 pounds. They had been raised on nothing but alfalfa and buttermilk. During the feeding period, they received about 200 gallons of buttermilk a week and all the cull sweet potatoes and crookneck squash they would eat. Several butchers, thinking they were fed nothing much but buttermilk, estimated their weight at 220 to 237½ pounds, but all concerned were much surprised when the hogs were weighed. Cull sweet potatoes cost $2.50 to $3 per ton according to their distance from good roads, while squash are raised beside the pig pen—125 tons last year from 2½ acres, besides what were thrown directly to the hogs.

SOUR HOGPEN IN CALIFORNIA.

[Written for Pacific Rural Press.]

Once, when a boy, a hog pen some distance off intruded its unwelcome presence on our attention because it was so sour that it is strange the pigs could exist in such atmosphere.

We have thought that the days of those conditions had gone by, and that certainly we would not find them here in California. It was, however, only recently that we were unfortunate enough to be stopped near a California hogpen for a few minutes while interviewing a farmer.

The hogpen was built of four wooden fence panels 18 feet long and contained six shoats. Hay was thrown in one corner as an island of refuge, for the pen was deep in the same kind of sour mud, though with a very little effort the panel fences could have been moved to dry, clean, sweet ground. Our head ached for some time after leaving the place.

REGISTERED
Poland Chinas
Ten week old pigs
$12.00 each.
LLEWELLYN RANCH,
R. J. Miller, Mgr.
Lathrop, Calif.

You Must Not Fail

to attend the

The California Holstein Breeders' SECOND CONSIGNMENT SALE

HANFORD, OCTOBER 14-15, 1915.

175 High Class Animals 175

Tuberculin Tested

For there will be offered an unusual opportunity to secure animals of great merit. For instance:

A COW WITH A RECORD OF 29.90 LBS. AS A 4 YR. OLD.
A COW WITH A RECORD OF 24.45 LBS. AS A 3 YR. OLD.
AND A NUMBER OF OTHERS OVER 20 LBS.

Granddaughters and daughters of many of the greatest sires of the breed, including 17 daughters of **COLANTHA SIR PONTIAC AAGGIE,** the best bred son of **COLANTHA JOHANNA LAD**—daughters of **ARCADY PONTIAC WAYNE HENGEVELD,** 13 A. R. O. daughters—granddaughters of **K. S. P. EMPEROR** and others of equal note.

Daughters of a 30-lb cow; a 29.90-lb. 4-year-old; a 24.45-lb. 3-year-old; a 24.45-lb. 4-year-old; a 22.50-lb. cow and others out of high record dams.

Cows and heifers bred to many of the greatest bulls in the West!

Bulls to Head Your Herd

About 20—including a son of a 29.90-lb. cow; a son of a 28-lb. cow; a son of a cow with a yearly record of 870 lbs. butter, sired by K. S. P. Emperor; a son of a cow with a yearly record of 772 lbs.; and Sir Holland Gamp—a prize-winner wherever shown.

For Catalog write,

JAMES W. McALISTER, JR., Chino, Sales Mgr.
COL. B. A. RHOADES, Los Angeles Auctioneer

Sunnyside Herd

31 head of females from this famous herd will be sold at the

Breeder's Consignment Sale
at Hanford, October 14th and 15th

Some A. R. O. Cows and some choice bred heifers bred to my herd bulls, **Arcady Pontiac Wayne Hengerveld,** who has 13 A. R. O. daughters, and **Judge Hengerveld De Kol 6th,** my junior herd sire.

NO BETTER BRED SIRES IN THE STATE.

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El Dorado Cocoanut Oil Cake
for Milk Cows and Chickens and Young Pigs and Hogs. Cheapest food in the market today. If your dealer doesn't carry it, address
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Write for New Data See actual figures showing you how to increase your calf profits.
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(Large Type)
YOUNG STOCK FOR SALE
(Both Sexes)
THE BROWNING STOCK FARM
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Blue Ribbon Berkshires
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Herd took 3 firsts, 5 seconds, 3 thirds.
Champion Sow American Berkshire Silver Trophy at 1914 State Fair.
Choice-bred Gilts, Boar Pigs and Sow Pigs from prize-winning sows. They are going fast. Order now.
F. W. WHITE, Elk Grove, Cal.

With the Live Stock Men.

DAIRYING.

A creamery is under consideration for Corning.

Otto McClure of Modesto reports lots of inquiries for female Holsteins.

Chas. Lenard of Glenn has increased his registered Jersey herd to 62 head.

Considerable activity in silo building is being shown at this time by the dairymen of Gridley.

J. A. Youngreen of Orland is going into Oregon in a few days to buy a few carloads of milk cows.

Dairymen were paid $4500 for cream delivered to the Exeter Creamery for the month ending Sept. 15.

The proprietors of the Lawson Ranch near Woodland announce an auction sale of all their dairy cattle on Oct. 2.

The various creameries of Kings county paid dairymen $165,000 for cream delivered during August, an increase of several thousand dollars over the preceding month.

The Good Luck Creamery and the Dairymen's Co-operative Creamery Association of Tulare county paid out $56,981.90 for cream delivered during the month of August.

A 200-ton, reinforced continuous door, concrete silo has just recently been built by H. F. Harrold on his ranch near Orland at a cost of $700. The walls are 8 inches thick.

Southern breeders bought heavily at the recent Hanford dispersal sales. C. W. Anderson of Burbank bought 11; Stalder Bros. of Riverside also bought 11, at prices averaging well over $200.

The Florendale Dairy of Grimes is producing very high-class ice cream and butter and selling them on the local market. Lee Mumma, the manager and owner, believes in selling a finished product.

H. F. Harrold of Orland has received word that Mabel De Kol Ormsby, dam of his herd sire, King Pontiac Order (a son of King of the Pontiacs), has made a record of 32 pounds butter in seven days.

Roeber Bros. of Delevan have just purchased from the J. S. Gibson Co. of Williams, Clifden Jetze of Oakwood, whose sire's dam is half sister to eight cows whose butter record averaged 875 pounds in one year.

E. C. Crumley, official tester for the new San Diego Cow Testing Association, reports that his efforts are meeting with success and that from present indications, before many months it will be necessary to hire an assistant tester and enlarge the Association.

C. G. McFarland of the Willowwood Jersey Farm of Tulare has recently completed some register of merit work. Philadelphia's Glory Zella finished a year's record May 31 of 631 pounds of butter at 11 years old. She has been re-entered for a still greater record.

Promoters of a milk-canning plant have been interviewing dairymen in Sutter and Yuba counties in an effort to learn whether it would be feasible to establish such a plant at Sacramento, using 5000 gallons of milk daily. It is said that the dairymen are lending their support to the proposition.

C. C. Lester of Gilroy, who has 60 purebred Holsteins in the Sacramento consignment sale next month, points out the only advantage of having grade stock on the ranch. He expects to stock his ranch with grades, stating that if they are injured by the abuse of hired help, the loss will not be so great. He has 175 grades now on hand.

Stalder Bros. of Riverside bought their bunch of heifers at the Hanford sale principally because they have a bull, Prince Aralia Walker out of Aralia De Kol 3rd (a daughter of Aralia De Kol), and sired by Prince Gelsche Walker. They figure that the use of the bull on these females will produce some very high testing animals. They have 15 heifer calves from him and will begin testing next spring.

The Lucerne Cream & Butter Company of Hanford and the Los Angeles Creamery Company also, in their factory at Hanford, commenced grading cream July 1. The former pays two cents premium for "A" grade cream containing 30 per cent butterfat or more. The latter pays the same premium on the butterfat test and a premium of five cents over the "A" grade for sweet cream delivered at Lemoore station.

H. H. Sisson of Willits reports the sale of two young Holstein bulls—one, Fobes Netherland Homestead, whose sire was De Kol Fobes Homestead 6th No. 106925 and whose dam was Hazeltine Mechthilde Netherland No. 223906, to John Hooper of San Francisco; the other, Count De Kol Homestead, whose sire was the same and whose dam was Miss Piebe De Kol Colantha No. 199519, to Chas. Underhill of Sherwood, Mendocino county.

The Visalia Co-operative Creamery started five years ago in competition with the creamery which had all the business there. This Co-operative Creamery started last May to pay different prices for different grades of cream; two cents less for that testing under 30 per cent butterfat and one cent extra, besides omitting charges for hauling, on sweet cream delivered by the patrons. Only one patron has been lost, though many cans of cream have been and some are still being, refused.

HORSES AND SWINE.

Four registered Duroc-Jersey sows owned by T. B. Scribner of Orland farrowed 64 pigs.

J. L. Mendenhall of Williams says that Shetland ponies sell faster than he can raise them.

W. L. Merrill of Colusa, a young Holstein breeder, finds registered Poland-Chinas pay as a side line.

The Berkshire sow R. C. Hannon of Corning sent to the Redding Fair took second prize as a sow under one year.

W. F. Bernstein of Hanford will exhibit 40 Poland-Chinas at the Panama-Pacific Exposition; many of these are young stock.

Ray C. Hannon of Corning finds purebred hogs make the gains; he has one young Berkshire sow that at ten months old weighs 350 pounds.

An estimate places the number of horses in the United States at the present time at approximately 21,000,000 and the number of mules at 4,000,000.

"Raising Berkshires and grain farming means lots of hard work," says Chas. Goodman of Williams. He adds, "They are a money-making combination."

Forty growing pigs from six young sows is increasing the registered Duroc-Jersey population on the Reed & Wychoff ranch close to Butte City at a rapid rate.

Slocum & Son of Willows, recently sold two registered Duroc-Jersey boars—one going to F. B. Scribner and the other to A. H. Bagnham, both of Orland.

J. R. Carrico of Orland finds that he can produce pork much cheaper with his purebred Durocs than with common stock. He has 150 head of hogs on the ranch.

M. Bassett of Hanford will send to the Panama-Pacific Exposition a carlot of pigs farrowed last November, now weighing 300 pounds. He will also send 16 for the breeding classes and six barrows.

It is reported that M. Bassett of Hanford will show his grand champion stallion, Ithos, at the Panama-Pacific Exposition; also that W. G. Morgan will exhibit his Belgian draft stallion.

F. C. Clark states that he will hold at his ranch, northeast of Willows, a dispersion sale of all his farming tools, horses, and other stock. Included in this sale are 46 head of registered Berkshire hogs, the foundation stock of which were purchased by Mr. Clark from the Brookline Stock Farm of Aurora, Ill.

The Poland-China sale at Hanford was called off because the State Association wanted to include all breeds in the sale, while the Hanford Poland-China breeders feared that such a mixture of breeds would gen-

BEWARE OF POORLY MADE HORSE COLLARS



More shoulders are being ruined by poorly-constructed collars than by the work the animals are doing.

W. DAVIS & SONS' FELTFACE COLLARS are guaranteed to prevent sore shoulders.

Look for the felt at the edge of the stitching.

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FELTFACE, medium draft, $5.00
FELTFACE, heavy draft... 6.00

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Our CUSHION COLLAR, a canvas and leather Boston Team Collar, is now to be had for $3.00.

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GRANDSONS OF TILLY ALCARTRA

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A Grandson of Tilly Alcartra.

We have several splendid grandsons of this now famous cow which we can deliver to you at prices which will suit the pocketbooks of every dairyman wishing to improve the quality of his herd, whether it be a grade or pure-bred herd. These bulls are sired by our herd bull, Prince Alcartra Korndyke and out of A. R. O. cows, and are the only living grandsons of a cow having a record of over 30,000 pounds of milk in a year. Such an opportunity for increasing production has never been offered DAIRYMEN AND BREEDERS in California, price and quality considered. Buy one of these bulls and solve your low production problem. Write

J. S. Gibson Co., Box 97 Williams, Cal.
"THE NAME GIBSON INSURES QUALITY."

FOR SALE

8 choice, registered tuberculin-tested

Short Horn Bulls

Aged 18 to 25 months.
Also 5 aged 8 to 13 months.

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HOG CHOLERA MASTERED.

The Superior Serum Co., of Kansas City, Mo., are now prepared to furnish anti-hog cholera serum from Los Angeles. All serum made and tested under U. S. Government inspection. The high potency of this serum has been shown to be perfect and the best of results have been obtained by the many hundreds who have used it. Price of serum 1½ cents per cubic centimeter. Virus free. OFFICE: 429-30 Bryson Block, 2nd and Spring, Los Angeles.. Phone Home A-1326.

W. H. HORD

Live Stock Auctioneer

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Swineland

TAMWORTHS, DUROC JERSEYS
We have for sale fine young stock, both sexes; also boars ready for service and bred sows. No better stock in this State. We have recently moved our big breeding establishment from Yuba City to Woodland.
Write or call and see us.
SWINELAND FARM.
W. O. PEARSON, Prop. WOODLAND, CAL.

THE GUERNSEY

is popular among the dairymen who appreciate that Economical production, richness and fine flavor of products lead to larger profits.

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Expert Live Stock Auctioneers

Sales conducted in all parts of California and adjoining States. Write for dates and terms.
Twenty-five years' experience.
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Circular containing 100 mechanical movements mailed free.

erate so much discussion as to detract attention from the stock on sale.

W. H. Ginn & Son of Corcoran bought two purebred Duroc sows about three years old two years ago this fall, costing $100, already bred to Colonel Chief. Since then he has bought no females at all, but has sold $335 worth of breeding stock, $100 worth of pork, and has 120 head left. It is not so hard to get into the purebred hog game extensively.

Last fall Arthur H. Brinton of Woodland attended the Illinois State Fair and Berkshire Congress and purchased the boar, Symboleer's Duke 196366, by Symboleer 5th. The latter animal was Grand Champion of the Berkshire Congress Show of 1913. Symboleer's Star, a brother to Symboleer's Duke, was Junior Champion of the Berkshire Congress Show 1914. Symboleer's Duke weighed 220 pounds at six months of age and 450 pounds at 12 months. To mate with this boar, he selected 8 young sows of the same type—all sired by prize winning boars or out of sows with good records. Several of these sows are by Baron Duke 170th, Grand Champion of the Berkshire Congress Show of 1911. From these matings he now has a choice lot of youngsters ready for delivery.

CATTLE AND SHEEP.

Z. T. Blankenship of Tulare county is looking for a purebred Hampshire ram.

E. F. Parks of Red Bluff is selling off all his purebred Shropshires and will use crossbreds instead.

Cokely & Murphy recently brought 2900 head of sheep from Currie, Nev., to their ranch in Yolo county.

Twenty head of beef cattle were recently purchased by C. P. Smith of Ukiah from M. C. Briggs and J. H. Sweeney of Potter Valley.

Twenty-eight cars of sheep were recently shipped by J. E. Noble of Winnemucca, Nev., to the Western Meat Company of San Francisco.

Chas. Kimble of Hanford says that we must keep small bands of sheep on small farms and the sooner that condition becomes general, the better.

AMERICAN BERKSHIRE CONGRESS.

A letter from F. S. Springer, Sec'y of the American Berkshire Association, states that the Berkshire Congress dates have been changed to Nov. 2 and 3 at the Panama-Pacific Exposition, San Francisco. Berkshire judging will take place on Nov. 4 and 5; and the Congress Sale of Berkshires will be held on the 6th, of which we will have more to say later. Papers will be read at the Congress by prominent breeders as follows: President's Address, A. H. Tryon, Willoughby, O.; Reminiscences, N. H. Gentry, Sedalia, Mo.; Seed Hogs, W. S. Corsa, White Hall, Ill.; Hog Cholera, J. L. Thatcher, Riverside, Cal.; Value of Inheritance in the Breeding Industry, Prof. C. F. Curtiss, Ames, Iowa; From the Atlantic to the Pacific, J. H. Dodge, Lowell, Mass.; Berkshire Conditions in the West, W. M. Carruthers, San Francisco; Relations of the Seller and Buyer, Chas. M. Talmadge, Newport, Wash.; Berkshire Type-Demonstration with Live Animals, F. A. Scott, Belleville, Ill.

CALIFORNIA DRAFT HORSE BREEDERS' ASSOCIATION.

A letter from Prof. J. I. Thompson, Sec'y. of the California Draft Horse Breeders' Assn., states that the annual meeting of the Association will be held in Congress Hall in the Exposition Grounds, San Francsco Oct. 1, at 5:00 o'clock p. m. At this time the annual report of the President and Secretary will be given, and besides the regular business meeting a general discussion of the draft horse business and its future will take place. At 7:00 p. m. a banquet will be held at the Stewart Hotel, together with the following program: "The Draft Horse," by John Truman, President Truman Pioneer Stud Farm; "Draft Horse Breeding," by Samuel Bell, President American Belgian Horse Association; "The Horse and its Relation to Agriculture," by C. F. Curtis, Dean Iowa State College of Agriculture.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

DAIRY CATTLE.

DISPERSION SALE OF HOLSTEIN HERD—52 Head of Registered Holstein-Friesians—26 cows of excellent blood lines of high record cows. 4 heifers, 2 year olds, bred. 10 heifers, four to fourteen months old. 6 service bulls of best families. 6 bull calves, one to ten months old. The sire of this herd is Artis Pontiac Tekstra, a grandson of King of the Pontiacs, also, a grandson of Pontiac Artis, one of the best of 116 A. R. O. daughters of Hengerveld De Kol. Prices on application.

350 Head of Grade Holsteins—250 cows, $75 to $125. 60 heifers, two years old, $65 and up. 40 heifers, five months to one year. The cows and heifers are bred to Holstein-Friesian bulls of the best families. Miller & Lux, Inc., Dos Palos, Cal.

INCREASE QUANTITY AND IMPROVE QUALITY of your milk by using a Guernsey Sire. We can furnish choice imported or home-bred bulls from big record cows at attractive prices. Imp. Itchen May King 25174, the best living May Rose bull, heads the herd. See him and his calves at San Francisco Exposition. Come and see our Guernseys, or send for price list. Edgemoor Farm, Santee, California, Walter H. Dupee, Proprietor.

REC HOLSTEINS—We offer choice grandsons of King Segis, also grandsons of the world's record cow. Creamelle Vale; blood that increases the value fo your herd Write or call and see our herd. F. H. Stenzel, San Lorenzo, Cal.

TWO JERSEY BULLS—9 and 14 months old, sons of Opal of Venedera, daughter of Pearl of Venedera, California's Champion Jersey Butter Cow, and Elva of Venedera. Write for pedigrees. H. V. Traynham, College City, Cal.

FOR SALE—Four registered Guernseys. Two imported cows 6 years old. One bull calf 5 months old from one of these cows. One bull two years old—champion Minnesota State Fair at six months old. E. M. Smith, Delano, Cal., R. D.

WANTED—From 6 to 12 head good, well-bred Holstein-Friesian heifers, from 16 months to 3 years old. Those that have already been bred to some choice bull preferred. Beckstead Mercantile Co., Fallon, Nevada.

REGISTERED HOLSTEIN COWS and heifers bred to Colantha Sir Pontiac Aaggie for sale. Also bull calf by him from a 24-lb. cow. K W. Abbott, Milpitas, Cal.

HOLSTEIN BULLS—Pure-bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

FOR SALE—About 60 head of fine dairy heifers from 6 montb to 2½ years old. Grade Jersey and Holstein, J. S. Smith, 226 Alameda Ave., San Jose, Cal.

REGISTERED HOLSTEINS—Young bulls sired by King of Riverside and Lakeside Model Prince from A. R. O. fame. J. R. Harlan Co., Woodland.

FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

SUNNYBROOK RANCH, Willits, Cal.—Breeders Registered Holstein stock. Young bulls for sale sired by Ruby Gem Cavary Lad. Prices reasonable.

AYRSHIRES—For sale, fine young bulls from Imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

REC. GUERNSEY BULLS for sale. Grapewild Farm, Maybews, Sacramento county, Cal. A. B. Humphrey, Prop., P. O. Box P.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class, thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

28 SPRINCING HOLSTEIN HEIFERS and Registered Bull. Fine milk strain. $1500 takes them. E. H. Webb, Escondido, Cal.

REGISTERED HOLSTEIN BULLS—Serviceable age. From finest strains. Panama Pacific Dairy, Sutter Creek, Cal.

JOHN LYNCH, breeder of Registered Shortborns. Milk strain choice. Young stock for sale Box 321, Petaluma, Cal.

BRFEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School. Whittier, Cal.

HOLSTEIN-FRIESIAN CATTLE and Berkshire Hogs. H. B. Goecken, Breeder, Goecken Heights, Livermore, Cal.

REC. JERSEYS—Herd established 1868. Young bulls from best cows. Ranch Dos Rios, B. 2, Modesto.

REGISTERED HOLSTEINS—A. W. MORRIS & SONS, Corn., Importers and Breeders, Woodland, Cal.

REGISTERED HOLSTEIN BULLS from A. R. O. dams. J. W. Benoit, R. 2, Modesto, Cal.

REGISTERED JERSEY BULLS from register of merit cows D. F. Conant, R. 5, Modesto.

CREAM CUP HERD—Registered Holsteins Pontiac bull calves. M. Holdridge, Modesto, Cal.

WILLOWWOOD JERSEY FARM—Breeder of registered Jerseys. C. G. McFarland, R. 2, Tulare.

REGISTERED JERSEY CATTLE—Young stock for sale. W. J. Hackett, Breeder, Ceres, Cal.

PALENDALE HERD of Reg. Holsteins. Young bulls for sale. J. A. Pelanda, Salida, Cal.

SUNNYSIDE HERD—Registered Holstein cattle. R. F Guerin, R. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma.

A. R. O. REGISTERED HOLSTEIN BULLS for sale. Millbrae Dairy, Millbrae, Cal.

BREEDERS OF REGISTERED HOLSTEIN CATTLE—McAlister & Son, Chino, Cal.

WANTED—25 to 50 good dairy cattle, to be paid for in monthly installments, payment secured by mortgage on stock with interest on deferred payments. Box 90, Pacific Rural Press.

BREEDER of Registered Holstein Cattle. Ernest Otto McClure, R. 2, Modesto, Cal.

REGISTERED JERSEY BULL two years old. Gentle. O. J. Ames, Oakdale, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto.

LINWOOD FARM—Registered Holsteins and Imported Guernseys, Santa Cruz, Cal.

REGISTERED HOLSTEINS—Golden West Herd D. & H. Bowles, Modesto.

N. H. LOCKE CO., Lockeford, Cal.—Choice young Jersey bulls for sale.

PACKWOOD FARM HERD for Holsteins. W. P. Mitchell, Visalia, Cal.

HORSES AND MULES.

REGISTERED JACKS—Range raised, guaranteed satisfactory breeders. Field Jacks a specialty. Also REGISTERED SHIRE COLTS. Will trade for young mules, horses, or land. James W. McCord, 508 Douty St., Hanford, Cal. Phone M471J.

PURE-BRED Registered Percherons—A few choice young stallions two years old; also two, three and four-year-old fillies, majority in foal, for sale. Los Altos Stock Farm, Los Altos, Cal.

REGISTERED, PEDIGREED JACKS, JENNETS and Gaited Kentucky Saddle Horses. H. B. Thornberry, Box 679, Stockton, or Box 1117, Los Angeles, Cal.

REGISTERED SHIRES—Black Hawk Stock Farm. Importers and Breeders. Easton & Ward, Proprietors, Burlingame, Cal.

BEEF CATTLE.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Shortborns, Villager and Avondale strain. Yearling bulls for sale.

SIMON-NEWMAN CO., Breeeders of registered Herefords Newman, Cal.

HOPLAND STOCK FARM—Registered Short-borns. Prices on application. Hopland, Cal.

SWINE.

I HAVE SOME EXTRA GOOD BOARS about one year old, now ready for service. These boars are the Big Type; strictly high class and fit to head any herd anywhere. They are large and have splendid length, depth and thickness. I also have some March pigs that are among the very choicest young boars that I have ever owned. Visitors say they are the best they ever saw anywhere. I also have some of the best weanling boars that it has ever been my pleasure to see. They have the size, the hams, the shoulders, the strong backs, the length and depth of body, with plenty of smoothness and mellowness—in fact, they have two good ends and a good middle. All the above-mentioned young boars are sired by my great herd boar Iowa Wonder, who is a son of A Wonder, the greatest Poland China boar living or dead. Their dams are all strictly first class, either directly from the "corn belt," or from sires and dams from the "corn belt." On account of extra demand I have had for this stock, I have no females for sale at present. Yours for the big type, Geo. A. Smith, Corcoran, Cal.

BILLIKEN HERD of pedigreed O. I. C. Swine; weaned pigs of both sexes for immediate shipment; pairs and trios mated, not akin. All from big type stock of extra heavy bone. Immunized against hog cholera, crated and shipped free. Write for descriptive circular and price list. C. B. Cunningham, Mills, Sacramento County, California.

O. I. C. SWINE—Poor health is the reason for this offer. Will sell my herd of pure-bred O. I. C. Swine at prices that will turn them quick. Pigs two to eight months old, either sex. Write me for special prices. Every hog registered. G. H. Dubois, Box 13, San Martin, Cal.

BLUE-RIBBON HERD DUROC-JERSEY HOGS—Bred Gilts a specialty. 15 bred now. 20 ready to breed. Sires and dams win all blue ribbons 1912, 1913, 1914 State fairs. 15 first, 13 seconds, 6 thirds, 7 fourths, 1 fifth. Will show 1915. For prices, write John P. Daggs, Modesto, Cal.

BERKSHIRES—Headed by Bandmaster 2nd, junior champion Iowa State Fair. My females were winners at Iowa, Wisconsin and Minnesota State Fairs. Farm at San Mateo. Address W. M. Caruthers, 218 Hearst Bldg., San Francisco.

ROSS' DUROCS—90 little fellows, farrowed since first of September. Will book orders for November delivery. Foundation stock from Daggs and Johnson herds. R. J. Ross, Route B, Modesto.

ROSE CREST BERKSHIRES of Masterpiece and Rival's Champion best breeding. A choice lot of Fall and Spring boars; also a few sows and gilts. F. L. Hall, Perris, Cal.

REGISTERED BERKSHIRE SWINE—All ages, for sale. Grapewild Farm, Mayhews, Sacramento, Cal. A. B Humphrey Prop P O. Box P.

REGISTERED POLAND-CHINAS — Prize-winning Nebraska stock. Large type. Young pigs for sale. Absolutely guaranteed. Hale 1. Marsh, R. 4, Modesto, Cal.

REGISTERED PUREBRED BERKSHIRE PIGS—(Weanlings) both sexes. Reasonable prices. Write for full information. J. E. Hall, Sebastopol, Cal.

REGISTERED BERKSHIRES—Fine 3 to 6 months boars by Panama Lee, Gold Medal winner at 1914 State Fair C. E. Barrows, Los Molinos Cal.

BLATCHFORD'S PIG MEAL weans easily and safely no trouble; no milk. Write for free folder, "The Safety Route from Pighood to Porkage." Coulson Co., Petaluma

DEL DAYO FARM—(Old Haggin Bottom Ranch)—Breeders of Registered Berkshires, both sexes for sale P. O. Box 1140 Sacramento, Cal.

POLAND-CHINAS—200 head. Fine individuals. weanlings to eight months. Satisfaction or money refunded. Geo. V. Beckman, Lodi.

REGISTERED DUROC-JERSEYS from choice Eastern sows. Two Fall boars and a fine lot of Spring pigs. S S. Southworth. Napa, Cal.

POLAND CHINAS—Young stock; either sex. Write for pedigree. Beasonable prices. Edwd. A. Hall, Watsonville, Cal.

REGISTERED BERKSHIRES—Boar pigs, $10 each Also aged boar, son of Double Premier. Extra fine. G G. Wenger, Route 5, Modesto.

REGISTERED BERKSHIRES—Six choice bred gilts. Weanling boar pigs. $10 each. Sow pigs, $12. J. M. Bomberger, Modesto.

PLAINFIELD STOCK FARM—Registered Berkshires and Durocs. Young stock for sale, both sexes. H. M. Bullard, Woodland, Cal.

REGISTERED DUROC-JERSEYS—Blue-ribbon stock. 8 gilts and one boar 9 months old. $20 each. H. E. Tong, Route 2, Modesto.

GLENVIEW POLAND-CHINAS—Baby pigs from best families for sale. From $15 up. Chas. R. Hanna, R. 3. Riverside, Cal.

IMPERIAL STOCK FARM BERKSHIRES—Quality and price guaranteed to satisfy. B. J. Merrill & Son, Morgan Hill, Cal.

LINDEN STOCK FARM—Registered Berksbires, both sexes, all ages, best of breeding. Write for prices. Linden, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford.

REGISTERED DUROCS—Prize-winning stock. Weanling pigs a specialty. Yeneme Ranch, Butte City, Cal.

REGISTERED BERKSHIRE BOARS sired by State Fair winner for sale. Butte City Banch, Butte City, Cal.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Duroc and Berkshire Swine. Weanlings for sale.

BERKSHIRES—Pedigreed Boars ready for service. Also pedigreed weanlings. C. H. Thompson, Novato Cal.

BERKSHIRES—80 head. Blue ribbon stock. All ages. Pure Gold Stock Farm, Elk Grove.

REGISTERED POLAND-CHINA HOGS—Cholera immune. W. D. Trenhjit, Hanford.

HOPLAND STOCK FARM — Registered Berksbires. Prices on application. Hopland, Cal.

POLAND-CHINAS—Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

FINE REGISTERED BERKSHIRE PIGS—Write or call Greenwod Banch, R. D., Brentwood, Cal.

REGISTERED BERKSHIRES—Prize-winning stock. Sunnyside Stock Farm, Perkins, Cal.

DUROC-JERSEYS—Registered boars and gilts. John Decker & Sons, Turlock.

REGISTERED POLAND-CHINA HOGS—J. W. Wakefield, Acampo.

REGISTERED DUROC-JERSEY SWINE—Las Pederas Ranch, El Cajon, Cal. M. S. Allen, Manager.

REGISTERED POLAND-CHINAS—Large and medium type. Prize-winners. W. A. Yonng, Lodi, Cal.

POLAND-CHINAS—Master Meddler blood. Choice weanling pigs. R. J. Turner, Trowbridge, Cal.

POLAND-CHINAS—Big type. Big litters. All ages Both sexes. C. A. Cooley, Durham, Cal.

DUROCS—Weanlings and a few choice bred gilts H. E. Boudier & Son, Napa, Cal.

NOB HILL STOCK FARM—Registered Poland-China Swine. A. M. Henry, Farmington.

DUROC BOARS of Advancer and Chief. Breeding guaranteed. E. C. Curtis, Napa.

REGISTERED DUROCS—Weanling pigs for sale. T. B. Scribner, Orland, Cal.

REGISTERED POLAND-CHINAS and Duroc Jerseys T. H. Beckman Lodi, Cal.

POLAND-CHINAS—Prize-winners. Money-makers. W Bernstein. Hanford. Cal.

REAOAKS RANCH herd of registered Poland Chinas. W. J. Hanna, Gilroy.

REGISTERED BERKSHIRES—Young stock for sale F. W. White, Elk Grove, Cal.

CHAS. GOODMAN—Breeder of high-class Berksbire Swine. Williams, Cal.

POLAND CHINA HOGS—Registered. R. J. Miller Llewellyn Ranch, Lathrop.

REGISTERED POLAND-CHINAS and Duroc-Jerseys. H. F. Harrold, Orland.

REGISTERED POLAND-CHINA HOGS—J. A. Clark, R. 4, Lodi, Cal.

REGISTERED O. I. C. SWINE.—C. D. CONWAY, Lakeport, Cal.

POLAND-CHINA HOGS—C. A. Stowe, Stockton Cal.

SHEEP.

FRANK MEACHAM, Petaluma, California.—Breeder Shropsbire, Ramouillets, American Merinos, both sexes. Take electric car at Santa Rosa or Petalnma for Live Oak.

SHROPSHIRE LAMB BUCKS—Yearlings and two-year-old rams for sale. J. R. Bloom, Dixon, Cal.

CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

BISHOP BROS, SAN RAMON, CAL.—Breeders and Importers, Shropshires.

MISCELLANEOUS.

ALFALFA SEED—If you are going to be in the market for Alfalfa Seed, get into communication with us at once. Will soon be harvesting the new crop. Booking orders now. Write or wire. V. A. Peterson Alfalfa Seed Co., Arbuckle, Calif.

RANGE LAND—Cattle men desiring to buy a first-class range in the western hills of Sacramento Valley, capable of running 1000 head or more, would do well to communicate with OWNERS, care Pacific Rural Press.

30 HEAD good dairy cows for sale, or will exwill exchange for good ewes. James G. Mee, St. Helena, Cal.

BREEDER of Registered Holsteins and Poland China Swine. E. E. Freeman, R. 5, Modesto, Cal.

Milking Machines

3 SIZES

See us at our Exhibit, Block 1, Agricultural Palace, P. P. I. E.

ARTHUR F. STEINER,
State Agent.

Veterinary Queries and Replies.

[Answered by Dr. H. B. Wintringham, Petaluma, Cal.]

CALF DIARRHOEA.

To the Editor: I have calves which suck the cows. They also have the running of the bowels so bad that they die from it. Can you tell me what is the cause and wbat can be done for it?—H. O., Gardnerville, Nev.

[Your trouble is white diarrhoea. Give the calves two 30-grain tablets sulpho-carbolates three times a day; also paint the navels of all new born calves with tincture of iodine as soon as possible.

HOGS' FEET SORE.

To the Editor: I have several hogs that seem to have sore feet. I feed mostly skim milk, a little middlings mixed with it. Other hogs I have fed in the same way never acted like that. Can you tell me the cause and cure?—W. J. W., Lemoore.

[This is foot rot due to the bacillus necrophorus. Make the animals stand in a 2 per cent solution liquor cresolis compositus for 5 or 10 minutes each day for 6 or 7 days.]

NON-CONCEPTION.

To the Edltor: I have a registered Duroc-Jersey sow, five years old, that will not get with pig. She comes in heat regular to tbe day. I bave bred her four times and she is in again. She runs on alfalfa pasture and gets two pounds ground barley and half a pound tankage per day. Can you tell me what to do to make her breed? She is a very valuable sow, the mother of the Grand Champion sow and other prize winners at the State fair last year.—E. L., Ceres.

[Give this sow 1-12 grain yohimbine three times a day for at least two weeks.]

GARGET.

To the Editor: My cow has one side of her udder very hard She gives no, or very little, milk out of it. She has been fresh only six weeks. Is there any danger using the milk from the other two teats? The two on the right are the ones that give no milk. I would like very much to know what I can do.—M H. B., Pleasant Grove.

[This is Garget. Look up back numbers of this paper for treatment.

CONTAGIOUS ABORTION.

To the Eidtor: I am baving little trouble with contagious abortion, or at least I believe it to be such. I would like to treat my herd of one hundred cows and heifers in the most beneficial way, but hav not money enough to give them a very costly treatment. I have read your different articles on this subject and decided to give them a treatment of Methylene Blue. A local druggist charged me $7.50 for 100 tablets (30 grain). Directions to give two to four tablets once daily for a week. Repeat this treatment after intervals of four weeks until three treatments have been given. This would take lots of time as well as money to give. Did not the druggist charge too much for the Methylene Blue? What would I be able to get it for? Could not I get Methylene Blue in a powdered form and put it in their drinking troughs? We tried one mixture recommended by the Arizona Agr. Extension Service. Our animals would not eat any of it. Could I put this in their drinking water? Which would do the most good, this mixture or Methylene Blue? If I can put in their drinking water, what strength solution can I make it?—R. E. W., Scottsdale, Ariz.

[Methylene Blue can be bought for about $7.00 per lb. in bulk lots. The treatment you outline is worthless and you would be throwing time and money away to try it. There is no internal medicine or vaccine on the market at present which is positive in its results. I refer you to the article in the January 9th issue of this paper as the most satisfactory method of combating this trouble at present.]

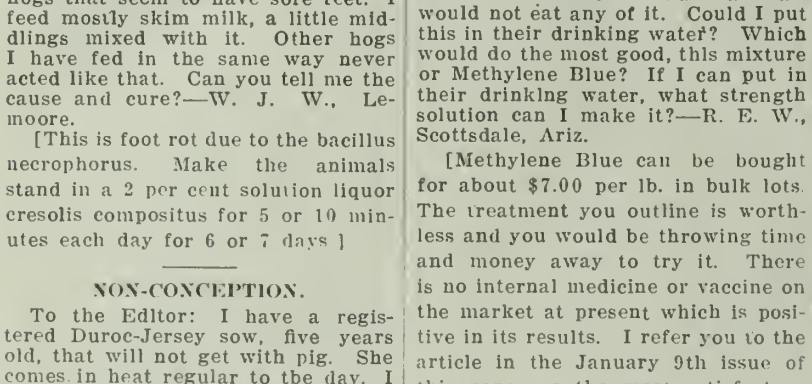
NON-CONCEPTION.

To the Editor: I have a Jersey cow which had her fifth calf last April. I have since bred her four times, but have not succeeded in getting her with calf. Have had no abortion in my herd. Have my own bull and breed no outside stock. Four other cows which calved since th one mentioned were bred but once and are anaprently with calf. Is there anything I can do in sucb a case? The cow comes in heat regularly.

Have a heifer which calved May 24, and have had no evidences that she has been in heat since so tbat she could be bred. Is there any way besides her disposition and attitude toward other cows by which one can judge when a cow comes in heat?—N. Y. Z., Hughson.

[Constant douching with bicarbonate of soda, 2 oz. to tbe gallon of water, at body temperature daily, is the best means of overcoming this cow's trouble and this may take a long time in bringing results.

Give the heifer two drachms iron phosphate daily. Her disposition is the best index to her period of heat.]



Relatives of Noted Produ cers.

Pacific Rural Press: When raising stock one always tries to get the best. Why not get Holsteins? In my consignment in the fall sale I am offering some very fine animals, something that will be an honor to any herd.

A daughter of Arcady Pontiac Wayne Hengerweld who has 13 A. R. O. Daughters; she has an A. R. O. record also. Some choice young heifers of Arcady Pontiac Wayne Hengerwold and bred to my Jr. herd sire Judge Hengerweld De Kol 6th a son of Judge Hengerveld De Kol who has 14 A. R. O. daughters, one the world's champion senior 3 year old. The cows I am offering are related to such sires as Juliana King of Riverside, Ignara De Kol and Paul De Kol, all noted sires of the breed.—R. F. Guerin, Visalia.



King Segis Pontiac Emperor

Will be sold at

The Combination Sale, Sacramento, Cal.

OCT. 6th and 7th

MR. BREEDER—Do you realize that the reputation and success of your herd depends very largely upon the sire that you use?

Do you realize that KING SEGIS PONTIAC EMPEROR has no superior in respect to type and breeding—that he has two sons and a grandson now in service in our herd, which are not for sale at any price—that his reputation as a sire has already been well established—that his sons have found ready sale at $500.00 to $2000.00, and that a number of his daughters are yet to be tested in our herd, as well as many of his granddaughters and near relatives?

Consider what it would mean to place this great sire at the head of your herd, and come to Sacramento on October 6th and 7th prepared to buy him.

A. W. Morris & Sons Corporation

Woodland, California.

Hillcrest Stock Farm

THORNTON S. GLIDE, Prop., Davis, Cal.

Breeders of

Short Horn Cattle

Shropshire and Merino Sheep

ATTENTION, SHEEPMEN.

My pure-bred, range-raised yearling Shropshire and Merino rams are now out of the mountains and ready for inspection at my place.

Shropshires sired by rams imported by me from England in 1911.

Successfully Preventing Hog Cholera.

(Continued from page 289.)

numbers that hogs actually get sick, wideawake farmers give all those which are not visibly affected the serum treatment, which has been perfected to a stage in which qualified veterinarians can administer it with safety to prevent the sickening of exposed animals either temporarily or permanently. One man in Solano county ordered enough serum C. O. D. to vaccinate his endangered herd. The charges were $70, and he had the serum returned. He lost all but 14 hogs out of 70. Englefelt and Stewart of Glenn county have all of their sows permanently immunized.

Preventing Recurrence of Spread.—The most effective means of preventing spread of cholera practicable at present is by quarantining sick herds. This is practiced in several counties, including Imperial, Merced, Yolo, and others.

The quarantine provides that the infected places shall be placarded, no dogs or other animals shall be allowed to run loose, hogs shall not be allowed in irrigation ditches, all dead animals shall be cremated or buried deeply (usually with quicklime), and the places disinfected after the outbreak is over One hog man lost one herd after another by replacing them on the same place and allowing each successive herd access to the same strawstack. Yards must be thoroughly treated with quicklime or coal tar disinfectants, buildings cleaned thoroughly and well sprayed with the same.

In Merced county last year some 30,000 hogs died of cholera. Up to the middle of September this year only 75 are known to have died. Last year the Doctor would drive over the county and find dead carcasses all along the roads and in irrigation ditches often with pieces of wire around their legs, which indicated that they had been dragged into the ditches.

"But what could I do?" says the Doctor. "There were no marks on the hogs by which I could prove who did it, and the guilty parties would swear that some one else had done it or that the hogs had drowned." Nevertheless, his rigid enforcement of the quarantine ordinance has had the exterminating effect on cholera noted above.

Breeders Help Enforce Ordinances.—The difficulty of enforcing county ordinances, and especially quarantines, is largely overcome in some sections by the formation of swine breeders' associations to report the disease and help the authorities to enforce the ordinances.

Merced county has no such association, but her neighbor, Madera county, is going at the problem from the other direction. Their Farm Bureau is organizing units of a county swine breeders' association under the auspices of the Farm Bureau units. The members of the association pledge themselves to report all cases of sick hogs known to them, keep strangers, and especially patent hog-medicine vendors, out of their pens, voluntarily submit to quarantine if their hogs sicken, change clothes and disinfect hands after caring for sick hogs, and not visit other pens. One of the principal objects of the association is to secure the enactment of county ordinances which will make cholera a thing of the past in Madera county. Thus, when the ordinances are passed, they will be more rigidly enforced than they could possibly be by the county and State veterinarians without the pledged co-operation of the breeders.

Oak Grove BERKSHIRES

CHOLERA IMMUNE

Our herd is Cholera Immune, the only Immune Berkshire herd in the State.

Five herd boars in use and they are second to none on the coast. Our sows are of equal merit.

We have at present some 300 Berkshires and we know that we can supply what you want.

Write us or Call.

OAK GROVE DAIRY FARM

A. G. ARMSTRONG, Prop.

Woodland, Cal.

DAIRY SALES SHOW NEED OF RECORDS.

[Written for Pacific Rural Press.]

Several pointers were gained by close observers of the Gilkerson-Weldon double dispersion sale of purebred Holsteins and the Royal Jersey herd of R. L. Waltz, auctioned at Hanford, September 15th and 16th, by Col. Ben. A. Rhoades and T. J. Gilkerson. Among the first things the Colonel told the crowd was that the sellers were at a disadvantage because very few of the animals had been tested for butterfat production. This fact hurt not only their own prices, but also those of their offspring and other relatives. The 22-months bull, Prince Gelsche Walker Korndyke, went to Fred Keisel of Sacramento at $4,000. The high price was very largely due to the records of his relatives. His fourteen nearest dams have records averaging 28.33 pounds, eight of them averaging 31.59. The other bull, Juliana De Kol King Segis, brought $1,800, paid by A. B. Comfort of Guernsey. His sire has four A. R. O. daughters and his dam made world's records in 30, 60 and 100 day tests. The spectacular cow sale was that of Beauty Snowflake of Sunnyside to C. W. Anderson of Burbank for $450 on account of her many relatives in the A. R. O.

More money might have been realized had there not been several more sales to come, offering stock with known records, and at a season when farm work is less urgent, and when more money will have been realized on crops. Another lesson is that no matter how great possibilities are born in an animal because of his good ancestry, his possibilities cannot be developed on salt grass. Buyers expect purebreds to be well developed for their age.

Following is a partial list of the buyers: J. W. Jones, Hanford, heifer, $300; B. F. Gilbert, Angiola, yearling bull; $100; C. W. Anderson, Burbank, 9 heifers and 2 cows, $2,150; C. D. Barbour, Leemore, cow, $275; L. Y. Montgomery, Hanford, cow, 2 calves and 2 heifers, $635: P. L. Ryan, Wheatville, yearling bull, $110; A. B. Comfort, herd sire, $1,800; J. M. Gillespie, Fowler, 2 cows, heifer, $750; F. C. Fickler, Lemoore, yearling bull, $90; W. H. Smith, Hanford, heifer calf, $120; M. Buyeme, Hanford, yearling bull, $125; Clark and Overland, Hanford, 2 heifers, $345; A. F. Fuller, Burrell, bull calf, $145; E. D. Robinson, Hanford, yearling bull, $130; Fred Keisel, Sacramento, herd sire, 2 cows, heifer, $4,630; A. Milnes, Riverdale, bull calf, $60; T. J. Allen, Laton, yearling bull, $75; J. P. Towe, Hanford, yearling bull, $65; J. Ganeia, Visalia, yearling bull, $80; Clarence Topham, Tulare, young bull, $100; W. J. Higden, Tulare, cow and heifer, $550; J. A. Crawshaw, Hanford, bull calf, $85; S. Cline, Hanford, yearling bull, $80; W. Polkinghorn, yearling cow, $210; R. E. Jubelt, Laton, bull calf, $75; J. E. Fruto, Hanford, yearling bull, $85; Frank Andrews, Riverside, cow and bull calf, $130; A. Lachman, San Francisco, young bull, $90; S. M. Ashley, Fresno, 3 cows, 2 heifers, $940; R. C. Sturgeon, Tulare, heifer and yearling bull, $225; A. E. Dixon, Hanford, cow, $200; E. H. Dye, Tulare, yearling bull and heifer, $130.

The Jersey Dispersion Sale.—The dispersal sale of R. L. Waltz' Royal Jersey herd at Hanford, September 16th, included some fancy cows, which sold at less satisfactory prices than had been expected. The cash terms, coupled with the lack of cash at this season and the extra work on hand, kept most buyers at home. Lack of adequate advertising was also partly responsible. A heifer calf dropped June 28, 1915, sold to R. E. Shore of Lemoore for $100; several cows sold at $200 and over. Twenty-six head were sold mostly to local people, including Ellery Church of Hanford and C. G. McFarland of Tulare.

175 Holsteins of Quality 175

The Sacramento Sale Oct. 6 and 7 is Synonymous with Quality

In fact, never before at any public sale has there been offered as many advanced registry cows, as many great yearly record cows, as many daughters of great record cows, and as many sons of great record cows. For size, growth and conformation of offerings, the Sacramento Sale leads all others.
Most of the females are in calf to such great sires as Tilly Alcartra Son; Segis Pontiac De Kol Burke; Aralia De Kol Pontiac Segis, King Klondyke Pontiac, and King Segis De Kol Mead. This means their calves will be worth all if not more than their dams bring.

Does your farm pay?

Perhaps not as much as you would like, or perhaps even losing money. If so, it is because you have neglected to engage in the most profitable branch of the industry.

Last January a herd in New York was dispersed for $150,000, the recent owner making over a quarter of a million in a dozen years out of Holsteins alone. A start toward wealth can be made by buying at the

COMBINATION SALE, SACRAMENTO OCT. 6th & 7th

A. W. MORRIS SONS, Woodland. McALISTER SONS, Chino.

For Catalog Write

F. S. MORRIS, Woodland, or JAS. A. McALISTER, JR., Chino, Sales Managers,

COL. B. A. RHOADES, Los Angeles Auctioneer

Milk Cows Wanted!

This company is in the market for from ten to one hundred head of HIGH-GRADE TUBERCULIN TESTED HOLSTEIN COWS.
We are not desirous of corresponding with anyone who cannot furnish us strictly high grade animals.

THE GOTSHALL CATTLE LOAN COMPANY.
Ripon, California

Brinton Berkshires

The big, smooth, prolific, money-making kind—with good bone and feet. Weanlings for sale.

A. H. BRINTON,
Woodland, Calif.



When Grain Is High **Feed DIGESTER TANKAGE**

Whether intended for show or market, the hog attains perfect condition and more quickly and economically if his ration includes some DIGESTER TANKAGE. The growing pigs needs DIGESTER TANKAGE as a bone and muscle builder. Write for free pamphlet on hog-feeding.

WESTERN MEAT COMPANY,
Animal Food Dept., 704 Townsend St., San Francisco, Cal.

More About Giant Grass for Fowls.

[Written for Pacific Rural Press by Geo. H. Croley, President Federated Poultry Ass'n. of California.]

In Sept. 11 issue we published an article under the above heading that has brought us an avalanche of letters and some money; the money we have returned to the senders as we have no seed to sell; and as quickly as possible we will reply to any special letters that are not completely answered in the following paragraphs.

Recently the writer, while experimenting with a certain material that may be valuable as a fertilizer for sugar cane (sugar cane may some day be raised commercially in California), had occasion to refer to two recent works on Indian corn (Zea Mays) known in countries outside of America as maize, in which some statements were made that set us to thinking hard.

For thirty years the writer has advocated the use of green corn stalks for summer and fall poultry feeding in California. Each year hundreds of poultrymen with limited water supply complain that they cannot possibly produce green feed for their fowls after July. Of the thousands of such to whom green corn fodder was recommended, only an occasional one would seem to consider it worth while to properly prepare the soil for the production of this crop with little water. As a result, few succeeded; and gradually we came to avoid recommending it; although we each year raise it for our own fowls at home and consider it brings greater returns than any other summer green crop that grows.

It occurred to us that as people in Africa, as well as California, were for similar reasons indifferent to the great value of corn, why not attract their attention to this valuable poultry food by the method suggested in one of these books.

In order that we might not overstate the value of this plant, we made use of the claims for it as presented in the chapter on grasses that appear in Prof. Henry's "Feeds and Feeding" except that we did not claim as great returns per acre as stated therein. This chapter opens with this statement:

"Indian corn (maize) is the imperial agricultural plant of America; this giant annual grass reaches a height of from 7 to 15 feet in four or five months, producing under favorable conditions from 30,000 to 50,000 pounds of green fodder per acre, etc."

The following are condensed statements that appear in a recently published South African work by Joseph Burtt-Davy, a former professor at the University of California, now connected with the Department of Agriculture of the Union of South Africa; this volume is entitled "Maize: Its History, Cultivation, Handling and Use," containiug 831 pages, price $7.50:

"If we should hear today, for the first time, of a grass which would yield up to 18 tons of dry forage (54 tons green) from an acre of ground, and of which the supply of seed was limited and the cost exorbitant, there would be a scramble for it. People would willingly pay 10 shilliugs ($2.40) a pound for the seed, and everyone would soon be growing it.

"Maize is a fodder grass that offers just such returns at 2½ pence (5 cents) a pound for choice seed, yet most farmers do not think it worth the trouble to find out what can really be done with it. Why should there he this indifference to the value of the most wonderful fodder crop on earth, the world's 'Wonder Grass'? Because maize is an old and well-known crop it does not appeal to us as an attractively advertised novelty would.

"Maize is not only the staple crop of South Africa (which is in many respects similar in climate to California), but it is essentially the dry-farmer's crop."

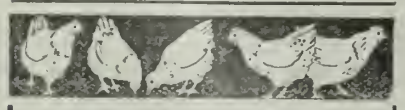
The Victorian Journal of Agriculture (Australia), June, 1910. refers to a yield from maize of 55¾ tons of green forage per acre.

For obtaining quick growth of tender greens for poultry feeding, we use the following method: Dig a trench the width of a spade. First throw out to one side the top soil to the depth of one foot, following by digging out suhsoil for about one foot, keeping it separate from top soil as much as possible. Break up the bottom of the trench and on this broken soil throw leaves, weeds, straw, grass, twigs, vine cuttings to the depth of about a foot, or anything that will rot and make heat, and incidentally future food and humus for the soil.

Now rake the largest lumps of subsoil on this rubhish and tread it down into as compact a layer as possible; cover with a layer of manure (poultry droppings preferred) and wet sufficiently to insure fermentation of the ruhbish. On this rake the finer portion of the suhsoil in which mix about one-fourth of the top soil, following with all of the top soil except enough to cover the seed corn to the depth of one inch. The surface should be smoothed and in some soils rolled or packed before spreading on the seed corn.

We scatter the seed about one inch apart all over the surface and a little beyond the sides of the cultivated soil so that the seed covers a space about one foot wide. On this carefully spread the remaining top soil to the depth of not over one inch and on top of this layer of earth spread well-rotted manure to the depth of from one-half inch to one inch. If additional rows are wanted, leave a six-inch wall of earth between the trenches. In case the soil is dry, this top dressing must be well sprinkled to start the germination of the seed. Afterward the frequent application of small amounts of water produces hetter results than heavy drenching. This plant loves mists, heavy dew, and sun showers. Where water is scarce, we know of no other plant that will produce such abundant results with so little applied moisture, provided it is supplied in small amounts and frequently. We usually expect to hegin using some of the most vigorous stalks two weeks after planting, but it is usually five or six weeks before it becomes too woody to be considered tender greens.

We trust that the method adopted in our effort to call attention to this valuable green food for poultry will be accepted in good part by our readers and that it may result in great benefit to a large number.



Now is the Time to Feed
Coulson's Egg Food

to your pullets as well as your hens, commencing at the age of three months.

Write for free book "Chickens" from shell to market.

COULSON CO.
Petaluma, Cal.

QUESTIONS REGARDING BALANCED EGG RATION.

The following questions and answers refer to our articles relating to balanced ration for egg production that appeared in issues of Aug. 21 and 28 and Sept. 4:

"I have read with much interest the articles on the importance of a balanced ration; the article of Aug. 28 contains much that I desired to know after reading that in issue of Aug. 21, but I yet desire to know the value of the enclosed list in addition to those already mentioned."—O. B., Jr., Sauta Rosa.

In reply we have tabulated the egg value of the above mentioned list of materials and present them herewith:

	Whites	Yolks
1 pound Cocoanut Meal or Slah makes	2.63	2.09
1 pound White Flour Middlings makes	2.82	2.10
1 pound Bolted Barley Meal makes	1.89	2.35
1 pound Common Rolled Barley (average quality) makes	1.23	2.37
1 pound Swiss Chard (estimated) makes	.29	.32

It should be understood that these figures are only approximate to a certain extent; we try to give as nearly as possible the value based on an average quality of the materials as they are found in the open markets. As an illustration: Nearly all rolled harley contains more or less roughage such as beards, light grains, etc., while the average lot of whole barley sold for feeding as dry grain or for sprouting is cleaner and contains fewer immature grains and consequently contains more protein in proportion than the average rolled barley of commerce; this accounts for the variation of the values of whole barley as stated in issue of Aug. 28 and of rolled barley as stated above. The same applies to bolted barley meal because it would be unprofitable to grind any hut the very best quality of recleaned barley for this purpose; besides, the hull and fibre taken out in the holting process are chiefly carbohydrates.

In regard to cocoa meal: This value holds good only for a very limited amount of this material mixed with other feed for the reason that the carbohydrates or yolk and heat-making elements are largely oil and too much of this material would cause a perpetual molt and check egg production instead of aiding it. It must also he fresh and sweet. If rancid, it should not be used.

The White Flour Middlings we mention are real middlings and almost flour white, containing much of the wheat germ which is rich in sugar and oil and the glutens. Middlings are easily adulterated; many feeders who will not buy ready

Classified Advertisements.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

WANTED.

WANTED—About seventy-five young men and women to enter the WESTERN NORMAL on August 30th, to prepare for teaching. Western Normal graduates secure and hold good positions. We assist graduates to secure good positions and promotion. We save you time and money. For information address, WESTERN NORMAL, J. R. HUMPHREYS, Principal, Stockton, Cal., Box 704

EXPERIENCED RANCH SUPERINTENDENT—Fruit, grain, irrigation, farming and subdivision projects. Alfalfa and stock. Salary or percentage. Box 800, Rural Press

MISCELLANEOUS.

APPLES—Buy direct from the producer. Bellflowers now ready. Bulk pack, 4 and 4½ tiers, Graded to Fancy, 70c per box F. O. B. Watsonville. Satisfaction guaranteed. Try a box or two. You will recommend them to your friends. Edward A. Hall, Watsonville, Cal.

SECOND HAND WATER PIPE and screw casing. New threads and couplings dipped in hot asphaltum. All guaranteed. Send us your inquiry. SHECTER PIPE WORKS, 306-8 Howard St., San Francisco.

BLACKSMITH'S SHOP COMPLETE—3 room house and screen porch. Two and a half acre lot. Fine pumping plant. Good business. For sale reasonable. James Lockie, Chowchilla, Cal.

"SMITHS' PAYS THE FREIGHT."—To reduce the high cost of living send for our Wholesale to Consumer Catalog. SMITHS' CASH STORE, 106 Clay St., San Francisco.

LIVING EXPENSES REDUCED THROUGH CO-OPERATIVE BUYING—Write for catalogue and particulars Pacific Co-operative League, D236 Commercial St., S. F.

FOR SALE—Steam Traction Well Drill. Good for 1000 feet. Write for description and terms. Box 561, Dixon, Cal.

TRACTOR PLOWING by time or contract. Special plow for hard ground. J. W. Seitz, Mountain View, Cal.

BEES.

INSTRUCTION BOOKS and prices, bees, supplies, etc. free. Spencer Apiaries, Ventura, Cal.

LAND FOR SALE.

CHOICE CITY PROPERTIES FOR COUNTRY LANDS—I have been authorized to exchange for developed country lands a number of exceptionally good San Francisco income properties; also several unimproved holdings. These range in value from $25,000 to $500,000—some clear, some encumbered—so that I can match up nearly any kind of a trade. No special objection to dealing with owners of country lands direct, but prefer to deal with them through their own agents or bankers. In submitting your properties, please give location, acreage, improvements, valuation, gross income and mortgage indebtedness, if any. Such information will be deemed confidential and will be returned if not acted on. Address, ATTORNEY, care Pacific Rural Press.

14½ ACRES FOR SALE—14½ AT A SACRIFICE—$15,000—GENTLEMAN'S COUNTRY HOME—One of the best paying, highly improved orchards in Santa Clara Valley. Situated southwest corner Steven's Creek road and Cypress avenue. Four miles west of San Jose, or Palo Alto and Saratoga trolley. Beautiful house, garden, ornamental shade trees; fine stable; garage; fruit house; tank house; electric motor. Extensive modern poultry plant. Complete drying equipment. Scientifically developed orchard. Big regular producer. ½ prunes; ½ apricots. Family orchard. Record crops every year. Ideal money-making country home. Business interests call the owner elsewhere. This ranch has been appraised at and is worth $20,000. Mortgage of $10,000 can remain; three years. L. L. Nouton, owner 530 Phelan Bldg.

ATTENTION, DAIRYMAN—For rent or sale. Splendid dairy and stock ranch. Good buildings; plenty water Further information write R. E. Smith, Klamath Falls Oregon.

FOR SALE—Beautiful country house near Capitola Two and a half acres chiefly in cherries. Seven roomed house and outbuildings. Address Owner, F. J. Archibald, Soquel, Cal.

563 ACRES winter sheep pasture, 16 miles east of Sacramento. Will take payment in bred ewes. Inquire E. H Boyles, care California Fruit Exchange, California Fruit Building, Sacramento, Cal.

FOR SALE—10 acres improved. Cow, chickens and furniture. Pumping plant. Write for particulars. Box 561, Dixon, Cal.

WANTED GOOD FARM, or unimproved land from owner. H. L. Downing, 145 Palace Bldg., Minneapolis, Minn.

TREES AND NURSERY STOCK.

TREES — LATE VALENCIAS — NAVELS — GRAPE FRUIT—Positively finest grown. Fall planting. 12½c in the tree row. Phone Whittier Line 5544. Brunson Nursery Co., Santa Fe Springs, Cal.

BURBANK'S SPINELESS CACTUS—Hardiest varieties, Melrose and Special. Strong mature slabs, $8.50 per 100; $50 per 1000. Labranza Ranch, Aiblone, Merced Co. Cal.

RECLEANED ALFALFA SEED, excellent color, very high germination, first-class quality, 19c per pound, F. O. B. your railroad station. Send for sample. E. F. Sanguinetti, Yuma, Ariz.

HOPLAND STOCK FARM
HOPLAND, CAL.

Standard Bred S. C. White Leghorn Cockerels, selected for Breeders. **Four months old, $12 per dozen; Yearling Hens, $12 per dozen.** Standard Bred White Plymouth Rock, Fishel and Owen Farm Strains **Direct.** Hens one and two years old $18 to $24 per dozen. Four to five months' old pullets, $18 per dozen. Selected Cockerels and Cock Birds, $5 each and up.

mixed poultry foods for fear of getting much filler and little real feed would take a fit if they only knew what they were passing to their hens in their home-made mixture. The writer remembers one instance that was certainly startling: In tracing the origin of the middlings used by a certain unbeliever in commercial mixed feed, we found that it contained over 90 per cent finely ground straw, knuckles, stems, chaff, and a various assortment from the smutter and less than 10 per cent real flour middlings; and these "middlings" were not so bad—to look at—either.

We are unable to obtain any exact feed value of Swiss Chard, but as it is nearly related to the sugar beet and runs mostly to top and little to root, we base our estimate on the average value of sugar beet leaves, tops, and crowns; and we believe this will very closely represent the feeding value.

CALIFORNIA POULTRY SHOWS.

Fresno, Sept. 28-Oct. 2. Fresno District Fair Poultry Show, entries close Sept 18; E. G. Eberhart, Sec'y., Fresno; Geo. S. Hensley, Supt.

San Jose, Oct. 6-9. Annual Show of Poultry and Pet Stock of the Santa Clara Valley Poultry Association, Chas. R. Harker, Secretary, San Jose.

Livermore, Oct. 9. First annual show of Livermore Valley Schools Boys and Girls' Poultry Club; entries close Oct. 6; Judge A. J. Emery, Sec'y., Livermore.

San Francisco, Nov. 18-28. International Poultry Show in connection with the Panama-Pacific Exposition; entries close Oct. 15; D. O. Lively sec'y.; T. E. Quisenberry, superintendent.

Modesto, Dec. 1-4. Stanislaus Poultry Association's fifth annual central show. Jas. D. Yates, Sec'y., Modesto.

Pasadena, Dec. 1-5. Annual show of the Pasadena Poultry and Pet Stock Association; entries close Nov. 20; M. D. Cartwright, Sec'y., 1719 Morton Ave.; J. D. Klefper, Sup't.

Porterville, Dec. 9-12. Porterville Poultry and Pet Stock Association, B. R. Nofziger, Sec'y.

Los Angeles, Jan. 5-11. Eleventh Annual Show Poultry Breeders' Association Southern California, Walter M. Ross, Sec'y., Glendale.

Sacramento, Jan. 14-18. California State Poultry Show, first annual exhibition held under auspices of the Sacramento Poultry Association. Entries close Jan. 1. C. A. Wilkins, Sec'y, Box 1117, Sacramento.

Ontario, Jan. 27-8-9. Annual show of the Ontario-Upland Poultry & Pigeon Association. O. T. Nichols, 223 East Nevada St., Ontario, Sec'y.

POULTRY NOTES.

The Cascade International Stock Show will be held at North Yakima, Wash., on Nov. 22-27.

At a joint meeting of the Coalinga Chamber of Commerce and the Coalinga Poultry Association, held Sept. 16, it was decided to hold an agricultural exhibit in connection with the annual poultry show which takes place during the last week of November.

The Sacramento Poultry Show to be held in Jan., 1916, will be judged by score card. Hinds, Russell, and Luce have been engaged to judge and two or three other judges will likely be secured. The Alameda County Poultry Association has donated $200 in cash prizes for exhibits from Alameda county.

Turkey breeders of the Sacramento Valley are taking renewed interest in the breeding of purebred turkeys. N. E. Mulick, of Willows, recently sent one tom and two hens for display at the Exposition; these were selected from his flock of 200. And C. A. McAuliffe, of Glenn, who already has a flock of over 100 Bourbon Red turkeys, has sent an order to Kentucky for five gobblers to mate with his present flock.

The Livermore Valley School Boys' and Girls' Poultry Club was organized last February for the purpose of encouraging the breeding of standard bred poultry and to help to develop the poultry interests of the valley. This being the first club of this kind to be established on the Pacific Coast, it has caused a great deal of interest as to the workings and rules of the club; numerous inquiries have been received by A. J. Emery, the secretary, from all over the Coast, asking for information about the club.

O. T. Nichols, secretary of Ontario-Upland Poultry and Pigeon Assn., writes: "We have close to 100 members in our Association with an attendance of about 35 at each of our monthly meetings. Have up now for special consideration the question of a proper market for our eggs and stock. Have hopes that the new Market Commission law will be of help to us. Your issue which contained Mr. McPherson's article I handed to our local paper and they printed it in full. That helped some, too."

Over 700 acres of the Burgess tract adjoining Concord, commencing near the O. A. & E. tracks and extending along the boulevard for about two miles has passed into the hands of Mrs. A. L. Gardiner, Judge W. S. Russell, and Chas. H. McBurney, and is to be sold in one, two, and three-acre lots for poultry ranches. The promoters intend building an incubator factory and a hatchery.

At a meeting of the Sonoma County Poultrymen's Federation held Sept. 4 a committee was appointed to arrange for the entertainment of T. E. Quisenberry, the poultry commissioner of Missouri, who will soon visit Petaluma to deliver a lecture which will be illustrated with lantern slides showing the one hundred-acre experimental farm of that state's poultry department and the various equipment used thereon. It is planned to give an entertainment and social in connection with the lecture.

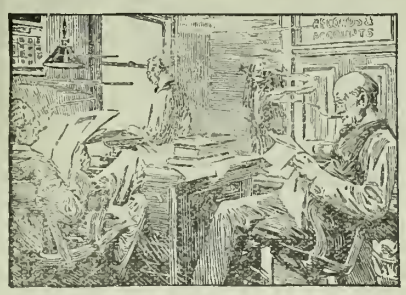
At a meeting of the San Francisco Poultry, Pigeon, and Pet Stock Association, held at the Ferry Bldg. on Sept. 16, T. E. Quisenberry gave an interesting lecture, illustrated by 95 lantern slides, regarding the one hundred-acre poultry experimental farm which is maintained by the state of Missouri with an appropriation of over $81,000, supplemented by an additional $20,000 for extension work, etc. The chief object of the meeting, however, was the establishment of rules and regulations governing the utility division of the Panama-Pacific Exposition Poultry Show, Nov. 18 to 28. It was decided to call upon all poultry keepers for suggestions in regard to the methods of handling this new feature of poultry shows. The American Poultry Ass'n. is preparing a utility standard which will no doubt be adopted at the convention to be held at the time of this show, but any rules or plans established at that time cannot be applied to this show. Poultry keepers everywhere who breed poultry for utility or market purposes are urgently requested to send their suggestions to T. E. Quisenberry, superintendent of poultry, Panama-Pacific Exposition, San Francisco, at once.

Among recent callers to this office, southern California was represented by our special writer in charge of "Farm Poultry for Profit," Mrs. Susan Swaysgood of Pomona, who has been visiting numerous friends and former neighbors in the northern part of the State in connection with a trip to the Exposition. Also by A. R. Jackson, the well-known engineer and poultry and live stock food expert of Long Beach, who with his family has been taking in the Big Show. Both report an increased activity in poultry culture in the South, due to recent improvement in marketing conditions and prospects for lower-priced feed during the coming year.

Fresno county has purchased 500 show coops for use at the poultry show to be held in connection with the district fair. In anticipation of increased entries over last year, the enlargement of the poultry pavilion is under consideration.

C. E. Barrows of Los Molinos showed 11 head at the Redding Fair and won with them: first prize, with boar two years old and over; first, on sows one year and over; first and third, on sows one year and under; first, on get of boar; first, on produce of sow; and first, second, and third on boars under one year. He is going to take his herd to the Eposition.

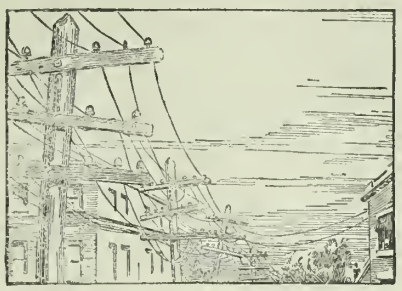
Hidden Factors of Service



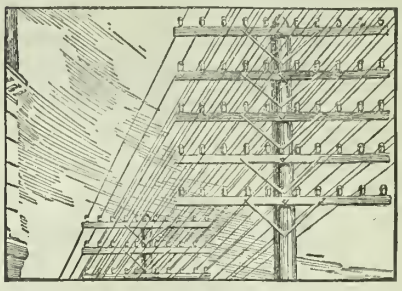
Records kept like this are practically useless for the management of a business. Efficiency is impossible and funds for improvement cannot be obtained.



Records, statistics and accounts kept like this are available for a complete knowledge of the cost and efficiency of each department of the business.



Such methods result in a telephone line which can give only poor service.



The result of such records is a telephone line like this, which gives good service.





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Poultry Breeders Directory

Rates in this directory, 3c per word each issue; or if carried weekly one year, 2½c per word.

BABY CHICKS—ORDER NOW for immediate or Spring delivery. Fine sturdy chicks only, from good layers. White Leghorns, Brown Leghorns, Black Minorcas, R. I. Reds, Barred Rocks Also Flemish Giant Rabbits. Write for circular Campbell Poultry Ranch, Campbell, Cal.

"THE FEATHERED WORLD"—The House with a reputation for High Class Fancy Poultry, Pigeons, Dogs, Pheasants, Rabbits, Birds, Gold Fish and Pet Stock. Robt. V. Moore, 1032 S. Main St., Los Angeles, Cal.

WHITE PLUMAGE POULTRY FARM and Hatchery Sells Fall and Winter chicks. White Leghorns, Barred Rocks and Rhode Island Reds Circular free H. A Schlotthauer, Exeter, Cal.

SHERWOOD'S FIRELESS HOVER—Will brood your chicks successfully with minimum expense Less mortality—less expense—less attention. Chicks go in and out without teaching. Send 25c stamps or coin for full instructions how to make this hover. Very simple construction. W. E. Sherwood, 2908 Battery St., Little Rock, Ark.

BARRED PLYMOUTH ROCKS—"The kind that Win and Lay." Choice stock for sale. Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

THE SANTA CLARA VALLEY HATCHERY can fill orders for 8 varieties of baby chicks and ducklings. J. A. Bihn, B. 6, San Jose, Cal.

CROLEY'S EVERLAY EGG MASH AND CROLEY'S SCRATCH FEED form a perfect balanced ration. Ask your dealer for them.

TRAPNESTED LEGHORNS—White and Buff Stock. Eggs, chickens. Arthur B. Schroeder, Box 179E, Mountain View, Cal.

ORPINGTONS, BUFF AND WHITE, Black Minorcas and Carneux pigeons. Mrs. Susan Swaysgood, Pomona, Cal.

SILVER-SPANGLED HAMBURG COCKERELS for sale. Ready for mating. Tribble Nurseries, Elk Grove, Cal.

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LEADING RABBITRY IN AMERICA—Flemish Giants and New Zealands. Cut your living expenses. Catalogue free. Empire Rabbitry, Empire, Cal.

BOSWORTH'S Imperial Red New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville, Cal.

BELGIAN HARES—Young stock for sale. Hurd Bros. St. Helena, Cal.

TURKEYS, DUCKS AND GEESE.

HART'S BRONZE TURKEYS—Limited number of last season's breeders for sale at reduced prices. Albert M Hart, Clements, Cal. (Successor to Ed Hart.)

CHICKENS, DUCKS, GEESE, GUINEAS, PEA FOWL. Address Wm. A. French, 545 W. Park St., Stockton, Cal.

PIGEONS.

WHILE THEY LAST for $3 per dozen. Plymouth Rock Homer Pigeons. Very fine. Geo. M. Bosworth, Geyserville, Cal.

The Home Circle.

DREAMS OF YOUTH.

O Time, whatever thou dost steal
Of things that make man's high estate,
The instinct fine, the conscience leal
To sympathies inviolate.
By all the sanctity of truth,
Take not away the dreams of youth.

Despoil me of my outer sight,
And rob me of the power to bear,
But spare to me the inner light,
And unimpaired the inner ear;
Leave me the melody of truth,
The beauty of the dreams of youth.

The cunning of my hand destroy,
Let limb and lobe grow impotent;
Let dullness all my senses clog,
My spirit still will be content,
If in me is the soul of truth,
The raptures of the dreams of youth.

Relentless Time, let winter's frost,
With every season tinge my hair,
And with the aging years be lost
What comeliness my frame may bear.
Still let my joy be in the truth,
My ecstasy the dreams of youth.

—Kansas City Journal.

A BRAVE LITTLE SOLDIER.

A great surgeon from across the sea was visiting in a small Southern city, and because he knew so much about some kinds of disease all of the hospitals and doctors within reach wanted his help.

One morning he was visiting, with a doctor, the different wards of a children's hospital. The morning was close and warm and the sky outside was heavy and gray, as if a storm might break at any minute.

The sick children were nervous and fretful, while the crippled ones complained of everything and soon grew tired of books and pictures.

The hospital was not out in the green fields or down by the seashore, but right in the heart of the city, where low roofs and other houses and a strip of blue sky made up the outlook from the windows.

Even the house doctors and the nurses looked fagged out and tired and the great surgeon seemed depressed by it all.

"You've no business with a hospital down here in the city," he said sharply, "and especially a hospital for children!"

"Well, you mustn't blame me for that!" said the doctor irritably, and they might have gone on and said more that was quite as useless, only just then a wonderful mocking-bird poured out his rich whistling song all through the dark building.

The surgeon stopped short and listened, and soft lights came into his steely blue eyes and little tender smiles began settling down on his rugged face. "A nightingale here in this country?" he said wonderingly. "No, it must be your Southern mocking-bird that I've read so much about. How wonderful it is! It makes one believe in angels!"

"It's a little human bird," answered the doctor with a tender softness in his voice. "That's our Little Soldier."

"A soldier in a children's hospital?" asked the surgeon. "I don't understand that."

"Well, you know there are two kinds of soldiers," said the doctor. "One kind wears bright uniforms with gold lace and shining swords and go marching off to war; and the other kind wear no uniforms at all, but just stay at home and face their duty every day as it comes along. Our Little Soldier is one of this kind."

Then the doctor led the way to where a small boy with a thin white face sat by an open window. One leg was all bound up in an iron brace and little twinges of pain now and then flew over his sensitive face, but a brave light shone out of his true blue eyes, and the most beautiful bird music came out of his little whistling throat.

The great surgeon tiptoed softly over to where the Little Soldier sat, and touching him gently on the arm said, "How do you do it, my lad?"

"Oh," said the boy, smiling as best he could, "it's the pain that makes me do it so much. You know when you are burting very, very much you just can't be quiet, and if you don't whistle you have to groan, and whistling seems much braver, and then it's much nicer for other people who have to listen to you. On days when the leg doesn't hurt so much I can read to the other fellows in here or I can paint pictures, but when the pain is too bad I can't do anything but whistle or groan, and whistling seems better!"

Then the great surgeon from over seas threw his head back to keep some tears from spilling out of his steely blue eyes, and taking a small iron cross from the inside of his coat he stooped over and pinned it on the shabby little coat of the brave Little Soldier.

"There, my boy," he said tenderly, "there's the Cross of the Legion of Honor from my country. My king gave it to me for a trifling service, and I thought I was proud of it; but today I have met a man who shames my courage and deserves it more than I."

The Little Soldier said, "Thank you!" very sweetly, and then as the two men left the building they no-



"Fred"—

"Put this can of Ghirardelli's Ground Chocolate in your basket. You'll find it the most convenient, nourishing, delicious, economical food beverage you can get. There are imitations but I don't handle them as my trade always demands Ghirardelli's."

And Fred took his grocer's advice. He now uses Ghirardelli's Ground Chocolate as a beverage—morning, noon and night. You can make a cup in a minute. For unusual desserts it hasn't an equal.

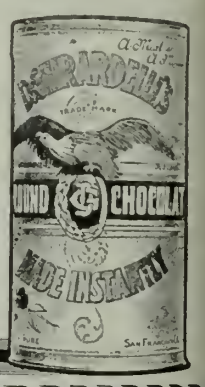
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The Only
Ground Chocolate

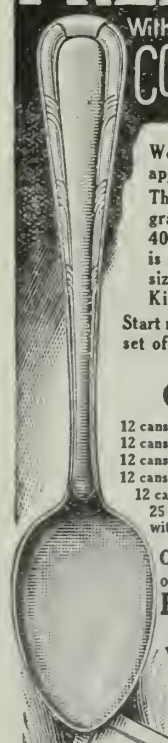
In ½-lb., 1-lb. and 3-lb. hermetically sealed cans.
There's a double economy in buying the 3-lb. can.

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Since 1852 San Francisco

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FREE GUARANTEED SILVER PLATED TEA SPOON
With 5 Lbs. COFFEE $1.45
THE BEST YOU EVER TASTED



We give you the spoon in appreciation for your trade.
The coffee is the equal of grades selling at 35c to 40c per pound. The spoon is guaranteed, standard size, silver plated, New King George Pattern.
Start now to collect a complete set of spoons.

Other Specials

12 cans Pork and Beans	$ .85
12 cans Standard Tomatoes	.70
12 cans Carnation Milk	.82
12 cans Campbell's Soup	.89
12 cans Sliced Pineapple	.99
25 pounds Cane Sugar with $10 grocery orders	1.00

Our catalog is chuck full of these bargains — It's FREE. Send for it.

Wood-Crane Co.
143-149 Main Street
San Francisco, California





Fire ruins at Quincy, Illinois, viewed from Eagle Tobacco Co.'s building, roofed with RU-BER-OID, which remained uninjured although flames swept over it.

You Want a Roof That Defies Sparks

—a roof that will keep your buildings warm in winter and cool in summer, a roof that will not crack, rust, warp, or leak; that *looks* well and *wears* well —*a roof that ends repair bills.* Buy for permanence and buy wisely. Buy

Pronounced "RU" as in RUBY
RU-BER-OID ROOFING
COSTS MORE - WEARS LONGER

RU-BER-OID Roofing is waterproofed with a compound containing high grade animal and vegetable substances. It contains no coal tar or asphaltum oils. It has been widely imitated in *name* and *appearance*, but not in *durability*. The U. S. Appellate Court enjoined imitators from using the word "Rubberoid or any similar name as a trade name or brand."

Building Books Free

Illustrated books, valuable to every property-owner, will be sent on request. Several contain practical building plans. Mail the coupon.

THE PARAFFINE PAINT CO.
San Francisco.

Also manufacturers of AMIWUD Wall Board and RUBERINE Roof Paint.

RU-BER-OID Roofing has given more than 20 years of perfect service in all parts of the world.

RU-BER-OID is *solid through and through.* It retains its attractive appearance through all extremes of weather.

RU-BER-OID comes in Slate Gray and in colors, Tile Red and Copper Green.

Look for the "Ru-ber-oid Man" (shown above) on the roll. If the Ru-ber-oid Man is not there, the roofing is *not* RU-BER-OID.

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Send me samples of RU-BER-OID and the books oppos
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Name
Address

ticed the other children had quit fretting, and the house doctors and nurses were smiling or chatting good-naturedly together, while the golden music filled the place with happiness.

"It's always that way," said the doctor, with a little choke in his voice. "We are doing what we can for the little chap and hoping and praying for him to get well, but all we can do isn't half what he does for us."—Francis McKinnon Morton in Sunday School Times.

HOME RECIPES.

Tomato Catsup. — Pare one-half bushel tomatoes and cook until very soft, sift them, taking all the seeds out. Then cook until as thick as you desire the catsup and then add one quart vinegar, one-half pint salt, and the following spices: One tablespoonful each of cloves, ginger and cinnamon, two tablespoonfuls each of mustard, black pepper and allspice, and one-half teaspoonful cayenne pepper. Let it cook 10 minutes, then bottle and cork tight, no further sealing is needed as it will keep for years simply corked.

Tomato Catsup No. 2.—Wash and cut in pieces a half peck of ripe tomatoes. Cook in a porcelain-lined or granite iron preserving kettle till soft enough to put through a sieve, which will remove skins and seeds. To the pulp add two tablespoonfuls of salt, two tablespoonfuls pepper, one-half tablespoon allspice, one-half tablespoon cloves and one-half pint vinegar. Let the tomato cook for several hours before adding the spices and vinegar. Mix the salt and spices dry in a bowl and blend well before putting into the tomato. Cook till quite thick and put in bottles. Store in a cool cellar.

Dill Pickles.—Put the cucumbers down in layers in stone jars or wooden firkin, with a layer of salt and one of the dill seed over each layer of pickles, then pour in enough boiled and cooled water to make a brine to cover the pickles, which should have a board or heavy plate on top to keep them under the brine. A liberal sprinkling of the dill should be over each layer of cucumbers, but there is no special rule. Scum should be taken off and the brine should be strong enough to keep pickles from becoming soft. In time the brine and cucumbers will form sufficient acid so that vinegar will not be needed, although sometimes it is added for flavor. Layers of cucumbers can be added from day to day.

Cottage Pudding. — During the peach season make an occasional cottage pudding as follows: To two well beaten eggs add one cupful of sugar, two tablespoonfuls of melted butter, 2½ cups of flour sifted with two tablespoonfuls of baking powder, a pinch of salt and one cupful of rich milk. Beat well. Place a pint of ripe, sliced peaches in a baking dish, sweeten slightly, and pour the batter over the peaches. Bake in a hot oven. When nicely browned invert on a platter and serve with whipped cream.

At a meeting of the Alameda County Farm Bureau Board of Directors held Sept. 11 a resolution was adopted requesting the supervisors to appoint a tree commission consisting of one farm bureau member each from the four country townships of this county, this commission, together with the farm adviser, to act in an advisory capacity in the campaign which the farm bureau is starting to have trees planted along all the highways in the county.

An Irishman was walking through a pasture when a bull rushed up and tossed him over the fence. Picking himself up quickly he faced the animal and said with suppressed wrath —"If it wasn't fer yer bowin' and yer scrapin' and yer apologizin' I'd o'thought you did that on purpose!"

Yells from the nursery brought the mother, who found the baby gleefully pulling small Billy's curls. "Never mind, darling," she comforted. "Baby doesn't know how it hurts." Half an hour later wild shrieks from the baby made her run again to the nursery. "Why, Billy!" she cried. "What is the matter with the baby?" "Nothing, mozzer," said Billy, calmly, "only now he knows!"—Harper's Magazine.

THE REASON SCHOOL TEACHERS NEED LONG VACATIONS.

Schoolboy answers reported from Philadelphia:

A deacon is the lowest kind of Christian.

Modern conveniences: Incubators and fireless telegraphy.

Franklin produced electricity by rubbing cats backwards.

In India a man out of one cask may not marry a woman out of another cask.

Tennyson wrote "In Memorandum."

Tennyson also wrote a poem called "Grave's Energy."

Louis XVI was gelatined during the French revolution.

Queen Elizabeth rode a white horse from Kenilworth through Coventry with nothing on, and Raleigh offered her his coat.

Lincoln had a woman make him a suit of homespun from rails which he had split. They were hickory rails, hence hickory shirts.—Kansas City Star.



Paints at $1.50 Gallon

—You can buy paints cheaper from us than any other dealer in the West. We buy in large quantities and sell for the lowest prices.

—Standard House and Floor Paints, $1.50 per gallon.

—Standard makes of Varnishes at 25% off regular prices.

Everything in Paints, Wall Tints, Brushes, etc., at big savings to you.

—Dutch Kalsomine 4½c per lb.
Black Graphite Roof—per gal... 50c
Standard Roof Paints—red, green, gray —per gal..... 85c
Shingle Stain, made from pure ground colors per gal..... 50c



$15 to $18 Front Doors $10
Veneered Oak with Plate Glass

—A typical value from our Sash and Door Dept., finest quality veneered oak doors with plate glass panels at top. Secured by special purchases recently and not mentioned in our catalog. All standard sizes and styles. Write for further details.

Screen Doors 25% Off

—New screen doors, the overstock of a famous door factory, made of best selected sugar pine in standard stock sizes. These doors can be duplicated in any first class yard at 25% to 40% more.

Style No. 8, $1.25

—This door usually sells for $1.65. Made of clear sugar pine and fitted with black screen wire, at our price..... $1.25

Style No. 9, $1.40

—Made of sugar pine, with three lower panels and fitted with galvanized screen wire. A door that will stand lots of use; our price..... $1.40

Odd Doors $1 and $1.25

—Inside doors of best sugar pine, 5 panel Colonial and 5 panel O. G., styles a big lot of them, in all sizes.

$30 Wallboard for $19

—The highest grade wallboard on the market; made of 3 layers of moisture-proof fibre, with asphaltum between each layer; or cream white fiber board.
—Cheaper and neater than plaster or lumber, and anyone can install it in one-quarter of the time.
Per 1000 square feet..... $19.00

"Standard" Roofing Paper

—A splendid quality of roofing paper that most firms would sell 20 to 40 per cent higher. Each roll complete with necessary cement, nails, etc., ready to lay.

1-ply, double-sanded, per roll of 108 square feet..... $1.15
2-ply, double-sanded, per roll of 108 square feet..... $1.40
3-ply, double-sanded, per roll of 108 square feet..... $1.65
1-ply, "King" smooth, per roll of 108 square feet..... $1.25
2-ply, "King" smooth, per roll of 108 square feet..... $1.50
3-ply, "King" smooth, per roll of 108 square feet..... $1.75

—Send for free sample. Remember we ship direct to you.

SHOVELS!—At Wholesale Cost—SHOVELS!

—You may go a life time before you get such an opportunity again. These shovels are in A-1 order but have been slightly smoked by fire while in transit.

—Every one in perfect working condition, all styles and sizes; note the prices:

Long Handle, Round Point Shovels, per dozen..... $4.85 or 50c each
Long Handle, Square Point Shovels, per dozen..... $4.85 or 50c each
D Handle, Round Point Shovels, per dozen..... $4.15 or 50c each
D Handle, Square Point Shovels, per dozen..... $4.15 or 50c each
Long Handle Spades, per dozen..... $3.75 or 40c each
D Handle Spades, per dozen..... $3.75 or 40c each
Long Handle Scoops, per dozeu..... $3.75 or 40c each
D Handle Scoops, per dozen..... $3.50 or 40c each

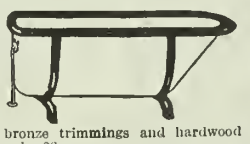
Dana Freezers at Half

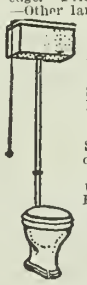
—A big lot of Dana freezers. Send in your order today. We've sold hundreds of them at these prices and have yet to hear a single complaint.

3-quart size, regular $2.25, now..... $1.00
4-quart size, regular $2.50, now..... $1.25

This Special Steel Enameled Bath Tub $8

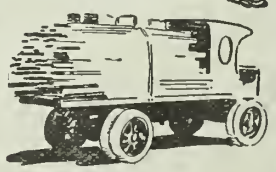
—One of the greatest bargains we ever offered! Made of best galvanized 24 gauge steel. Outside is finished in a rich sky blue enamel with bronze trimmings and hardwood edge. Price only $8.
—Other larger sizes at $8.50, $9 and $10.





Low Down Enamel Steel Toilet Combination.... $11.50
Complete to floor—wonderful value
Low Down Vitreous China Closet Combination.... $15.50
Special value—worth $22.50.
Big value in High Tank Toilet Combinations.... $10.00
Complete to floor—a bargain.
Special Bankrupt Stock of Kitchen Sloks.
All sizes— up from..... $1.00
Best Quality Porcelain Lavatories; every one guaranteed— $10 down to... $3.75





Oregon Pine $10 to $15

—Good new rough Oregon Pine lumber, all sizes, at $10 to $15 per thousand.
—Oregon Pine lath, 4 ft., new, $2.50 per thousand.
—Best grade Slashed Grain Oregon Pine, sanded finish, $37.50 per thousand. This makes a beautiful interior finish.
—These prices will give you an idea of how our lumber department can save you money. Send in your lists and let us give you our price **delivered.**

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The Markets.

Unless otherwise noted prices are f. o. b. San Francisco.

San Francisco, Sept. 22, 1915.

WHEAT.

Northern club has stiffened up a litte, but otherwise values remain stationary, with very little strength, as the expected export movement is showing up rather slowly.

Sonora	$1.55	@1.60
Cal. Club, ctl	1.52½	@1.55
Forty-fold	1.60	@1.65
Northern Bluestem.	1.65	@1.70
Northern Club	1.55	@1.57½
Northern Red	1.55	@1.65

BARLEY.

There is nothing new in shipping, but speculative buying shows more activity, resulting in a slight advance in spot feed.

Shipping	$1.25	@1.30
Choice Feed, ctl.	1.17½	@1.22½

OATS.

Most grades are quoted a little lower, though the market shows no particular weakness at the decline. Feed grades are in very fair demand, but supplies are ample.

Black	$1.85	@2.00
Red Feed	$1.25	@1.30
Red Seed	1.40	@1.50
White	1.30	@1.40

CORN.

California corn, with the exception of the sorghum varieties, is still out of the market. The latter are moving fairly well, at steady prices, but there is no unusual activity.

Eastern Yellow	$1.80	@1.85
Milo Maize	1.75	@1.80
Manchurian	1.40	@1.60
Kaffir	1.80	@1.85

BEANS.

Quotations on most varieties have been marked down sharply, the prices quoted being those prevailing on the wharf, for stock as it comes from the fields. Recleaned beans are of course higher. The market shows some signs of firmness, with a good deal of inquiry from outside points, but it is too early to tell how extensive the demand will be. The lima harvest has been under way for the last fortnight in the southern district, but reports on the crops are still rather divergent.

(On wharf, San Francisco.)

Bayos, per ctl	$4.10	@4.20
Blackeyes	3.25	@3.35
Cranberry Beans	4.00	@4.35
Horse Beans	2.25	@3.00
Small Whites	4.25	@4.50
Large Whites	4.10	@4.20
Pink	3.25	@3.50
Limas	4.90	@5.05
Red Kidney	5.50	@5.75
Mexican Reds	5.25	@5.75

SEEDS.

Prices show no quotable change, most lines being practically nominal, as there is no demand of any consequence at present. A larger movement of alfalfa is expected, however, within the next few weeks.

(Wholesale Prices, San Francisco.)

Alfalfa	17	@18 c
Brown Mustard, per lb.	Nominal	
Canary	9	@10 c
Hemp	3	@ 3½c
Millet	2½	@ 3 c
Timothy	7½	@ 8 c

HAY.

Arrivals here are still falling off, as the holdings still in the fields are rapidly cleaning up, and the movement is expected to subside greatly by the end of the month. The export demand and active local buying are cleaning the fields much earlier than usual, and the market is developing more firmness right along, even the poorer grades being stronger, though they constitute most of the arrivals. Everything sells readily, and choice grades are still higher, with indications of a general advance before long. The crop is said to be very light in southern California, as well as in the north. Good alfalfa is in strong demand.

No. 1 Wheat, per ton	$12.00	@14.00
do No. 2	8.50	@11.00
Tame Oats	9.00	@13.50
Wild Oats	7.00	@10.00
Alfalfa	10.00	@13.00
Stock Hay	5.00	@ 6.00
Straw, per bale	.25	@ .40

FEEDSTUFFS.

Prices remain as last quoted, with about the usual jobbing movement in a jobbing way for current requirements.

(Wholesale prices per ton, carload lots, San Francisco.)

Beet Pulp, per ton	$20.00@21.00
Alfalfa Meal, ton	16.00@19.00
Alfalfa Molasses Meal per ton	19.00@20.00
Bran, per ton	27.00@28.00
Oilcake Meal	38.00@39.00
Cocoanut Cake or Meal	23.00@25.00
Cracked Corn	41.00@42.00
Middlings	34.00@35.00
Rolled Barley	25.00@26.50
Rolled Oats	30.00@32.00

VEGETABLES.

Values in general continue easy, with heavy arrivals in many lines. Tomatoes are in especially heavy supply, causing a further decline in general offerings, though some fancy stock will still bring fair prices. String beans show a wider range, and good limas are higher, with a good deal of poor stock offered in both lines. Peppers and summer squash are noticeably weaker, while cucumbers are doing a little better at the moment. Okra has dropped sharply. Ordinary lots of green corn show little change, finding a very fair market, while choice offerings are held more firmly.

(Wholesale Prices, San Francisco.)

String Beans	1	@ 3 c
Lima Beans	2	@ 3½c
Pepers, bell, box	30	@35 c
Tomatoes, lug	30	@50 c
Cucumbers, lug	20	@35 c
Summer Squash, lug	25	@40 c
Green Corn, sack	.75	@1.50
Okra, lug	30	@40 c
Eggplant, lug	30	@50 c
Celery, doz.	25	@30 c

POTATOES AND ONIONS.

Little change has taken place in this line. Sweet potatoes are piling up a little, resulting in a rather sharp decline. Garlic is firm, some northern offerings being sold out; and onions are steadier than they were a few weeks ago. Potatoes are moving off fairly well at the old prices.

Salinas Burbanks	$1.40	@1.50
Delta Burbanks	.75	@ 1.05
Sweet Potatoes, ctl	$1.25	@1.50
Onions, ctl	60	@70 c
Garlic, per lb., new	7	@ 7½c

POULTRY.

Local demands have been rather less insistent for the last few days, and with continued liberal arrivals the market shows some easiness. Small broilers have been marked down considerably, and fryers and roosters also are slightly lower.

Turkeys, old, lb	17	@19 c
do, young	23	@25 c
Broilers, 15 lbs. to doz and less, lb	26	@27 c
do, over 15 lbs to doz	22	@24 c
Fryers	19	@20 c
Hens, extra, per lb	15	@16 c
Small Hens, per lb.	13	@14 c
Smooth Young Roosters per lb.	20	c
Squabs, per doz.	$2.00	@3.50
Geese, per pair	2.00	@2.50
Ducks, young, lb	13	@14 c
Old	12	@13 c
Belgian Hares	8	@ 9 c

BUTTER.

Prices dropped to a rather low level a few days ago, but have partially recovered. Shipments, however, have been coming in more freely than the local demand warrants, and while some relief has been found in shipping north, the market there also is weak.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	26½	25	26½	26	26½	26½
Prime Firsts	25	24	25	24½	25	25
Firsts	24	23½	24	24	24	24

EGGS.

Extras have gone up 1½c for the week, having reacted from a still higher figure, resulting from decreasing shipments from nearby producing districts, the local demand holding up about as for some time past.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extra	36½	38	37½	39	39½	38½
Sel. Pul.	31	32½	32½	32½	33½	33½

CHEESE.

Offerings for the last week have dropped off, and as there has been a fair buying movement prices on most grades are firmer.

Y. A.'s, fancy	13½c
Fancy Calif. flats, per lb	14 c
Calif. Cheddar flats, per lb	13 c
Monterey Cheese	14 @15 c

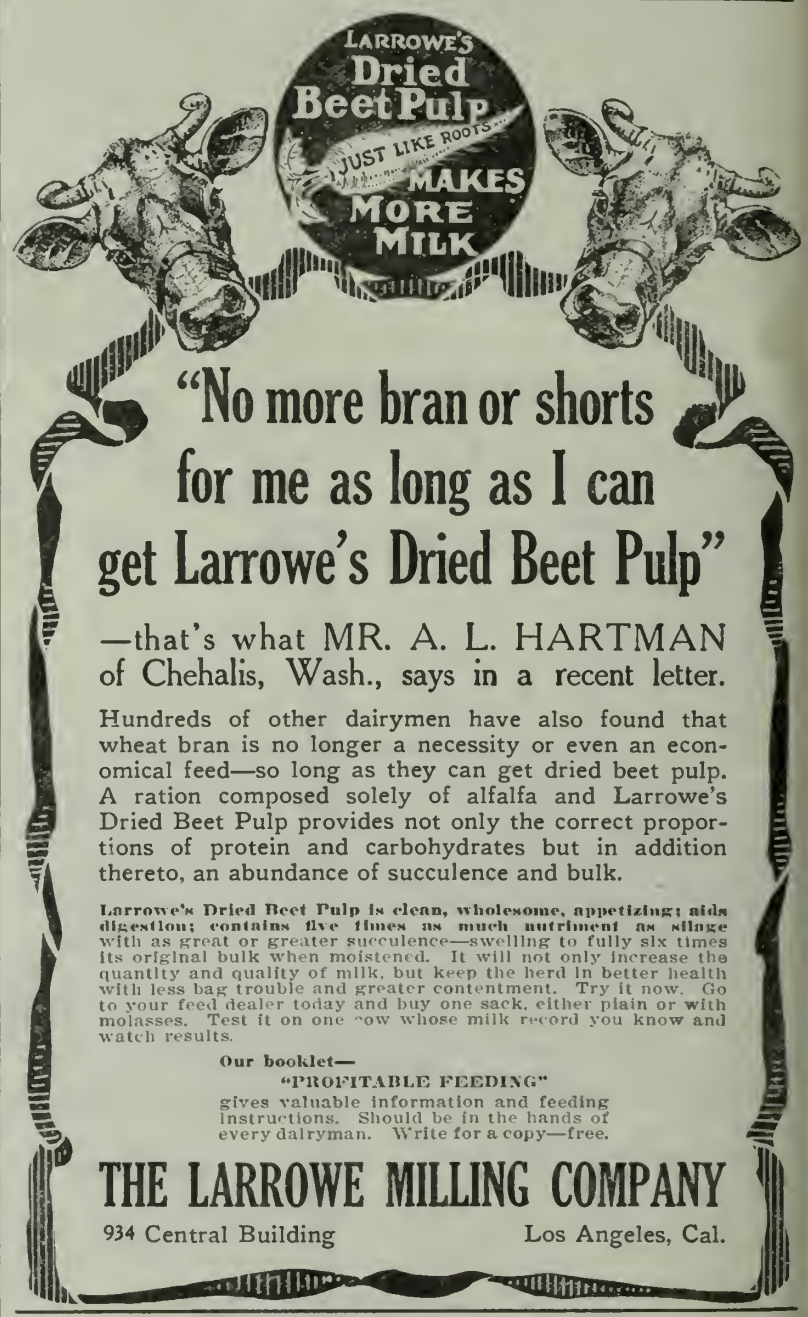
LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	34	34	34	34	34	34
Cheese	12	12	12	12	12	12

DECIDUOUS FRUITS.

Many lines are still offered in rather excessive quantities, and while others are slowing up, the movement also is rather slow and prices show little improvement. Strawberries are higher, and blackberries are fairly firm, but huckleberries have taken another drop. Plums are easier, while prunes show a sharp advance. Figs are much lower, with very heavy arrivals of the black variety for the last few days. Bartlett pears have been marked up, but there is still more or less poor stock that sells at irregular prices. Bulk peaches of rather poor quality are plentiful and lower, while good stock in small boxes is steadily held. A good many quinces are appearing at the prices quoted. Casabas are doing a little better, while cantaloupes are arriving in excessive quantities and prices show considerable weakness. Grapes are in heavy supply and as a rule of mediocre quality, bringing the general range of prices down.

Huckleberries, lb	4	@ 7 c
Strawberries, chest	$3.50	@4.50
Blackberries, chest	3.00	@4.00
Plums, crate	.65	@80 c
Prunes	1.00	@1.25
Figs, bx., double layer	.40	@50c
Pears, Bartlett, box	1.25	@1.75
Peaches, small box	.40	@75 c
Lugs	.40	@65 c
Apples, Grav.	.70	@1.10
Alexander, 4-tier	.75	@1.10
Belleflowers	.60	@90 c
Quinces, box	.50	@75 c
Casabas, doz.	.40	@1.00
Persian Cantaloupes, dz.	1.00	@2.00
Cantaloupes, crate	.65	@70 c



"No more bran or shorts for me as long as I can get Larrowe's Dried Beet Pulp"

—that's what MR. A. L. HARTMAN of Chehalis, Wash., says in a recent letter.

Hundreds of other dairymen have also found that wheat bran is no longer a necessity or even an economical feed—so long as they can get dried beet pulp. A ration composed solely of alfalfa and Larrowe's Dried Beet Pulp provides not only the correct proportions of protein and carbohydrates but in addition thereto, an abundance of succulence and bulk.

Larrowe's Dried Beet Pulp is clean, wholesome, appetizing; aids digestion; contains five times as much nutriment as silage with as great or greater succulence—swelling to fully six times its original bulk when moistened. It will not only increase the quantity and quality of milk, but keep the herd in better health with less bag trouble and greater contentment. Try it now. Go to your feed dealer today and buy one sack, either plain or with molasses. Test it on one cow whose milk record you know and watch results.

Our booklet—
"PROFITABLE FEEDING"
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MICA AXLE GREASE

It makes the heavy loads seem light." There's a reason for this — the ground mica does it. Makes the spindles smoother. Makes the grease go twice as far. Dealers everywhere.

Standard Oil Company (California)

Watermelons, doz	.75	@	2.50
Grapes, Thompson			
Seedless, crate 70	@85		c
Malaga, lugs 75	@85		c
Tokay, crate 45	@60		c
Muscats, crate 65	@75		c
Black, lugs, ...40	@60		c

DRIED FRUITS.

The movement of dried fruits has slowed down again, according to reports about town. A few weeks ago packers showed a disposition to pick up any odd lots that were offered, but they are now holding off a little, owing to delay in the export movement, accompanied hy a tendency in the Eastern trade to limit their purchases, as they did last year, to nearhy requirements. Growers, however, as a rule, are taking quite a firm attitude, preventing any quotable decline, and the outlook is not discouraging so long as holders do not press their stock on the market. Apricots are getting fairly well cleaned up, and while the top figure is only for strictly fancy stock the range quoted covers most transactions. Figs are in very fair demand. Prunes are not getting much attention at the moment, but are steadily held, and some business is going through. Peaches are steady, with some call for fancy offerings, though ordinary stock moves very slowly. Raisins have been quite active, and the seedless varieties are about cleaned up, with a strong export demand. The New York Journal of Commerce says:

"Packers appear to have a wide range of prices on prunes and it is almost impossible to establish a ruling market quotation. October shipments of Santa Clara prunes are being generally held at a 4c basis for 40s to 60s, inclusive, with a quarter of a cent premium on straight 40s. There are prices which shade this figure and a few operators even demand higher quotations.

"Future Apricots are inclined to be slightly easier. There are a few offerings of Santa Clara apricots at 8c for extra choice, 8¾c for fancy and 9½c for extra fancy f. o. b. steamer, but apparently there is little inclination to buy.

"Raisins maintain a very strong tendency. Spot stocks seem to be well cleaned up and the coming crop has been the center of considerable activity for some time. Prices have been withdrawn by the Associated Company on seedless, though a few outside packers continue to offer limited supplies at advanced prices."

(Prices to Growers.)

1915 crop.			
Apples 5½	@6¼		c
Apricots, per lb 7	@9		c
Figs, white 4	@4½		c
Black 2¼	@3		c
Calimyrna 5½	@6		c
Prunes 3⅜	@3¾		c
Peaches 2¾	@3¼		c
Pears 5	@8		c
Raisins (in sweatbox):			
Loose Muscatels 4	@4½		c
Seedless Sultanas 6	@6½		c
Thompson Seedless ...6	@6½		c
San Jose prices to growers on 1915 crop:			
Apricots 8	@8¾		c
Prunes, subject to dist. 3¾	@4		c
Peaches 2½	@3		c
Pears 5	@8		c

CITRUS FRUITS.

The eastern citrus auctions are strong for oranges and the recent hot weather has helped the sale of lemons. At New York on Monday, Sept. 20th, Valencia oranges averaged from $2.55 up to $6.40 per box, most of the thirteen cars offered selling for better than $5 per box. Lemons brought an average from $1.40 to $2.65 per box. The Chicago market on the same day paid an average of $5 to $5.50 for Valencias, and lemons $2.25 to $3 per box. Grapefruit from $3.50 to $5.00.

At this time the outlook for oranges for next season in California is that the crop of navels will be nearly as large as this year, valencias a little heavier and lemons about the same.

The San Francisco demand for oranges is not especially heavy, but recent arrivals have been a little lighter, and prices have been raised 5c. Other lines show no change, the movement being fairly active as for some time past.

(Wholesale prices, San Francisco.)

Oranges, Valencias, bx..$3.75	@4.50		
Grapefruit, seedless, hx. 2.50	@3.00		
Fancy 3.00	@3.50		
Lemons, hox 1.50	@2.75		

NUTS.

Almonds are moving freely at the new prices, though it is said that little is heing done by local operators outside the Association. New figures on walnuts are expected before long. Reports on the French walnut crop indicate that shipments to this country may be delayed.

(Exchange prices f. o. b. common shipping point.)

Almonds (1915):	
Nonpareil	15 c
IXL	13½c
Ne Plus Ultra	13 c
Drakes	11 c
Languedocs	11 c
Walnuts:	
Jumbo, lh	Nominal
No. 1 Softshell	Nominal
Budded	Nominal
Ungraded	Nominal
Manchurian	12½c

HONEY.

Fancy comb honey is quite scarce, and while there is no quotable advance everything is firmly held. The local demand for extracted is light, some of the larger consumers limiting their purchases to the cheapest offerings; but there is no burdensome supply here at present.

Water White, comb ..11	@12½		c
Amber 10	@11		c
Water White, extract'd 6	@7		c
Light Amber 3	@4		c
Dark 2½	@3		c

LIVE STOCK.

The easiness on hogs is still in evidence, with offerings rather larger than the market will absorb readily, and another slight decline is noted. Dressed mutton and lamb also shows further easiness.

Steers, No. 1 .....6¼	@6½		c
No. 2 6	@6¼		c
Cows and Heifers, No. 1 5½	@5¾		c
No. 2 .....5¼	@5½		c
Bulls and stags 4	@5		c
Calves: light 8	@8½		c
Medium	7½		c
Heavy 6	@7		c
Hogs, grain-fed:			
200 to 300 ls	6¼		c
100 to 200 lbs.	6¾		c
Prime Wethers 6	@6¼		c
Ewes 4¾	@5		c
Suckling lambs 7	@7½		c

DRESSED MEATS.

Steers 10	@10½		c
Veals, large 12½	@13		c
Small 14	@15		c
Prime Wethers 11	@11½		c
Ewes 10½	@11		c
Suckling lambs 12	@13		c
Hogs 11	@11½		c

HOPS.

Buying has not yet started in on a very large scale, as the outlook for business in other markets is still rather uncertain, and holders are not altogether satisfied with the prices now offered.

1915 crop .....10@12c

WOOL.

Wool is moving off rather slowly, and mostly in small lots, the range of prices remaining about the same.

Spring clip:	
Humboldt and Mendocino	18@27c
Sacramento Valley, lh 18	@22c
Southern, year's staple 15	@18c
Six months 14	@16c
Fall clip:	
San Joaquin 8	@10c
Northern 10	@14c

HORSES.

No new stock worth mentioning has been brought in this week, and such scattering sales as have been made are of little interest. First-class drafters, few of which are offered, find ready sale here at good prices; but ordinary stock receives little attention in this market, the principal movement being in the country.

(Approximate values at San Francisco, based on auction sales.)

Heavy drafters, 1700 lhs and up $275	@300
Light drafters, 1550 to 1650 lbs 200	@225
Chunks, 1350 to 1500 lbs 165	@185
Wagon horses, 1050 to 1350 lbs. 125	@150
Green Mountain range horses, 950 to 1200 lbs 50	@ 90
Farm workers 60	@ 75

MULES.

1200 lbs and up 200	@225
1100 lhs 175	@200
1000 lhs 140	@160
900 lbs 90	@150

HIDES.

Values show little change, but there has been little foreign buying of leather goods in the last few weeks, and as a result the hide market is somewhat easier.

Heavy steers over 50 lbs 16	@17½		c
Medium 15½	@17		c
Light Steers under 48 lbs 15½	@17½		c
H'vy Cows, over 50 lbs.15½	@17½		c
Kip 15½	@17½		c
Veal	17½		c
Calf	17½		c
Dry Hides 26	@27		c
Dry Kip, 10 to 15 25	@26		c
Dry Veal, 5 to 10	30		c
Dry Calf, 7 down	30		c
Horse Hides—			
Salt: Large $3.00			
Medium 2.50			
Small 1.00			

SPECIAL DECIDUOUS MARKET REPORT.

By J. L. Nagle.

Sacramento, Cal., Sept. 20, 1915.

Up to the present writing from 50 to 60 per cent of the Tokay crop and about 75 per cent of the Malaga crop has been harvested. Despite the fact that there has been a shortage of both varieties, the shipments during the past week of Tokays was exceptionally heavy and when this tonnage arrives in the East it will unquestionably have a depressing effect upon the market.

Weather conditions from now on will, of course, regulate the movement to a considerable extent and we figure that the entire crop of Tokays will be harvested within the next thirty days.

It is reported that Emperors are of exceptional quality and the crop heavier than last season. The harvesting of this variety will commence in from two to three weeks.

It is more evident today than when the bill went into effect that the Standardization Law has heen a safeguard to the industry, especially as it prevented the shipment of unsugared grapes. The grapes this season have carried better and have been accepted more readily by the trade.

The shipment of peaches, both cling and freestone, will probably be cleaned up this week. At the present time there is very little market for either variety as the Eastern markets are all overstocked with home-grown fruit.

Good quality, clean stock Bartletts have met with a ready demand in practically all markets and though the shipments of this variety have practically ceased, there are quite a few cars rolling which should bring highly satisfactory prices.

As we indicated in our last report, there has been some activity among the canners, and though the prices offered would not have interested the growers any previous season, they are higher than the quotations made by the canners a month ago. Good, well-colored clings can be sold from $10.00 to $11.00. Practically all of the stock has been contracted for and is moving. Quite a few cars of clings have been wrapped and sent East on orders, hut the demand for this variety is limited, though the prices received for this fruit will be a few dollars better than that offered by the canners.

The following prices have ruled for the week.

New York—Tokay Grapes averaged $1.45; Malaga, $1.20; Bartlett Pears, $2.50; Gross Plums, $1.25; Kelsey, $1.25; Orange Clings, 88c.

Boston — Tokay Grapes, $1.55; Malaga, $1.25; Bartlett Pears, $2.20; Kelsey Plums, 90c; Grand Duke, $1.30; Orange Clings, 85c.

Chicago — Gross Plums, $1.37; Grand Duke, $1.07; Kelsey, $1.12; Bartlett Pears, $2.30; Tokay Grapes, $1.35; Malaga, $1.10; Levi Clings, 40c.

Total shipments to date, 9942 cars; total shipments same date, 1914, 10,984 cars.

Membership Books Closed

for the 1915 season. The Exchange expense for the 1914 season, exclusive of Eastern brokerage, was 1.92%. Growers are cordially invited to sign up now for the 1916 crop.

CALIFORNIA ALMOND GROWERS' EXCHANGE
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Highest Market Price
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for dried fruits, nuts, honey, beeswax, beans, etc.
Send samples or ship direct to
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Publisher's Dep't.

In writing us about the "California Hog Book," F. A. Dixon of Hunt Brothers Company says: "The book is gotten up in very nice style and believe it is going to be worth many times what we have paid for it. As a matter of fact all the Rural Press books impress us as being extremely practical and of greatest possible value to the industries of which they treat." Every breeder should secure a copy of this book—sent for $2 postpaid.

A satisfied subscriber is one that continues to renew. Last week we received from Mrs. S. P. Stow of the Lea Patera Ranch, near Santa Barbara, the forty-third renewal of her subscription to the Pacific Rural Press.

The gardening season is at hand and you should have a copy of Prof. Wickson's California Garden Fowers, Trees, Shrubs and Vines, at your elbow to refer to in planning your garden work. Send for a copy before you start in on your fall work. Price $1.50 postpaid.

California Garden-Flowers

SHRUBS, TREES AND VINES

Being Mainly Suggestions for Working Amateurs.

By Edward J. Wickson,
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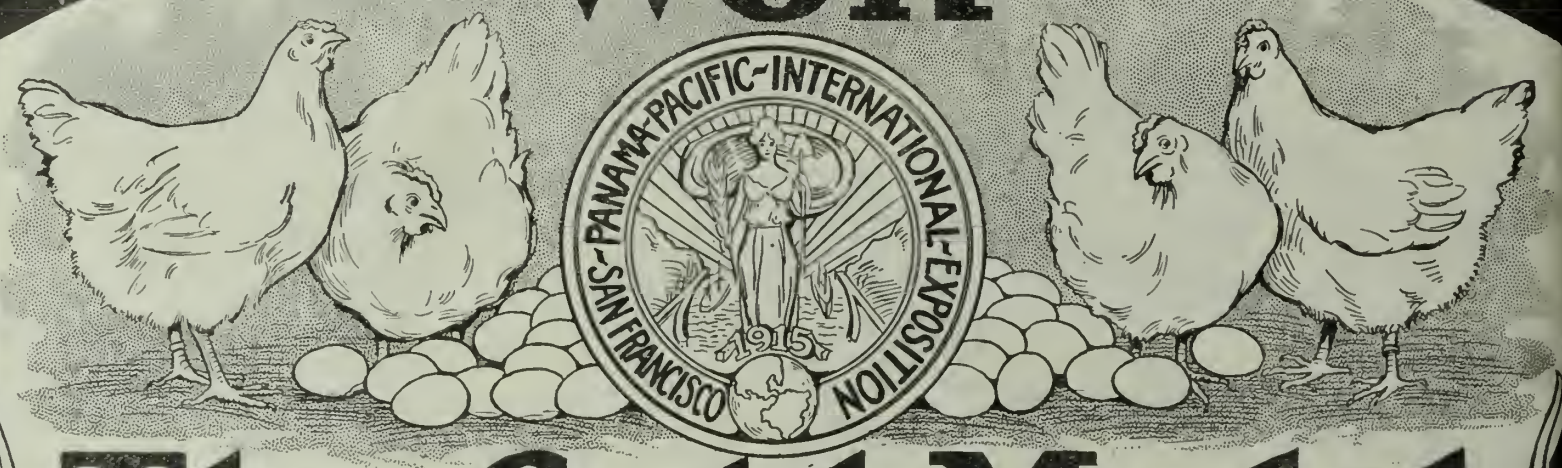
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Vol. XC—No. 14. Forty-Fifth Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO OCTOBER 2, 1915. LOS ANGELES

California State Library

Growers Can Help Raisin Marketing.

Continuation of the present successful system of marketing raisins depends on the growers in two vital essentials: loyal support of the present organization so that it may handle the crop satisfactorily in this peculiarly trying year; and production of such good quality that consumption will be increased at ruling prices.

[Written for Pacific Rural Press.]

THOUGH occasionally rumors of discontent with the local tactics of the California Associated Raisin Company may be heard, yet it remains a fact that the growers are assured of getting profitable prices this year in the fact of a considerable hold-over, an extra large Muscat crop, and complications with wine grapes; and if the present crop is sold satisfactorily, there is no doubt but that the contracts will be renewed.

The money spent by the Company in advertising and otherwise stimulating consumption in the United States and abroad is a good business investment, and will prove one of the greatest factors in securing a profitable market for the rapidly-increasing raisin crops of the years.to come.

However, should illicit sales of raisins by growers under contract to the Company, as well as by outside growers, furnish a sufficiently big stick to weaken the Raisin Company's command of the situation, and should the Company decide not to continue, there would be real chaos and ruin, both for the short-sighted and grasping or piqued independents, and also for those who have valiantly stood by the Associated. It is, however, becoming a matter of remark that outside growers who thus furnish a club for their own undoing and that of their neighbors, are becoming ostracized to a greater or less degree.



FRESNO COUNTY SUN-MADE RAISINS.
Bumper Crops do not worry California Raisin Growers now; though economical production, larger berries, more clusters, and proper care in picking and drying them, may make much difference in Net Profits.

First Class Raisins Stimulate Consumption.—Aside from persuading outside growers to let the organization handle the crops, there seems little that the growers can do to help the market except to produce first-class raisins which will make the consumers eat more of them than ever before. This is a matter of great profit to the grower at very little increased expense, by using better methods of raisin growing.

With the crop on the vines and trays this may not be the time to remedy this year's cultural troubles; but it is the best time of year to compare the results of different systems of pruning, cultivation, irrigation, picking, etc., to determine the cultural policy for next year, in order to produce the best raisins which will make marketing easier.

Picking the Grapes Late.—The Raisin Company has been asking growers not to pick the grapes until they have developed a certain per cent of sugar, because they dry away too much, leaving inferior skin-and-stone raisins. Of course, as remarked by Howard Russell of Sanger, raisins will be 15 per cent greater weight if left two weeks on the vines after they are full size, on account of the great elaboration of sugar at that stage.

C. W. Adams and G. M. Flint, of Fresno county, are two vineyardists who realize this, and had not started to pick this fall when their neighbors were half done.

As the grapes on the trays receive less injury by showers if they are not yet fully colored, and as showers often come in late September, these gentlemen figure that they will make better raisins if they pick just before the showers. Any sand washed onto them will fall off during the wrinkling instead of being beaten into the wrinkles already formed. Sand in raisins stops consumption.

Another advantage is that the raisins dry quicker when they have more sugar. Anyway, October weather is generally considered better than late September. The raisins are heavier with sugar and more of the second crop are ripe. Mr. Flint thinks that the general practice of early picking is due to the old regime when the first raisins delivered to the packers were sure to be sold, and the "devil take the hindmost," which he did.

Producing Clusters. — Since cluster raisins bring the highest price, every man likes a large per cent. Of the hundred tons expected on the Adams' ranch, 60 tons will be clusters, according to Frank Henryof Sanger, under whose direction the pruning, cultivation, and irrigation have been done this season, as printed in the Pacific Rural Press last spring. Certainly, most of the bunches are heavy, of great size, and with large berries compactly set on the bunches, like wine grapes.

To avoid mixing clusters and layers with the common raisins, Dave Porter of Hanford has dried them separately on the fruit-drying ground. Geo. Ritchie of Armona avoids spoiling layers and clusters in handling by insisting that the pickers lay (not throw) the bunches on the trays and no bunch on top of another. He never allows the pickers to "maul over" grapes by hand after laying them on trays, because that knocks off the bloom and makes them look like they were rained on or picked green.

If mildew or sunburn are not controlled, the affected berries must be cut out of clusters and layers at considerable expense. When allowed to stay in the bunches they reduce the quality and make it harder to increase the demand. The effective control of these two troubles will have an important bearing on marketing, and especially in the price which must be received to cover cost of production.

PACIFIC RURAL PRESS

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California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at 5 p. m., September 28, 1915.

STATIONS	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.06	.35	1.20	64	46
Red Bluff	0	0	.74	88	52
Sacramento	0	.01	.34	86	48
San Francisco	0	.01	.26	76	52
San Jose	0	.04	.34	82	44
Fresno	0	0	.22	94	52
Independence	.02	.10	.18	90	38
San Luis Obispo	0	.01	.43	84	48
Los Angeles	0	0	.04	86	56
San Diego	0	0	.04	76	56

THE WEEK

Of course we shall not object if Uncle Sam decides to use a California standard with which to measure the climates of other parts of his domain. It might occur to an objector that he find a closer fit by choosing the climates of Labrador or of Cuba or a mean of the two—but evidently Uncle Sam desires for a standard something that is really fine: an ideal to which he may lead up his other climates, as a teacher is apt to exhort obstreperous kids to behave like the best boy in the school. But the climatologists tell us that reformation of climates is a matter of geological time and not of human history. However, Uncle Sam is at least justified in choosing a Californian to tell him how bad his other climates are, for he only who has tasted heaven can fully describe the loss of it. On this ground we are justified in expressing satisfaction that William G. Reed, last year instructor in climatology in the University of California, has now taken up his new work at Washington on the "Atlas of the Agriculture of the United States" which is being prepared by the Section of Agricultural Geography of the office of Farm Management of the United States Department of Agriculture. Land classification maps are being prepared. Charts of the occurrence of frost and climatic charts are being compiled, their type and character being specified by the Section of Agri-Geography, but the actual work being done mostly by the Weather Bureau.

While Mr. Reed is making his agricultural charts it might not be amiss to slip in one showing how the Californian climates compare with the Mediterranean, which have a similar range of products. It would be good agriculture, of course, and besides it would comfort thousands of eastern winter-refugees who may not find things comfortable in Europe for some time to come. Our "tourist-trade" during the coming winter is pretty sure to be very brisk anyhow, and if Mr. Reed could so stimulate it that our visitors would eat up all our surplus products it would save a lot of freight. It would be a great agricultural achievement and we are proud that California has produced a man who can do it.

Let the Farmer Extend Himself!

Last week we gave a brief exhortation to all farmers, who could command time and gasoline, or car-fare, to get off their own acres and see what they could learn from other people. The Mecca for all such pilgrims during the next six weeks should be the University Farm at Davis (13 miles from Sacramento), where short courses in many farm subjects will be in progress with open doors to all who desire to see or listen and to learn thereby. Three longer Short Courses, each lasting six weeks, are offered, from October 4 to November 12, viz., agriculture, horticulture, and poultry husbandry. The course in dairy manufactures, which is of eight weeks' duration, will also commence October 4 and will continue until November 24. During the last three weeks, October 25 to November 12, still shorter special courses are offered in deciduous fruits, citrus and semi-tropical fruits, and in viticulture and olives. These are particularly designed for general reviews of the latest practice which practical farmers chiefly desire. There are no entrance examinations to the Farmers' Short Courses and no restrictions as to sex, but applicants must be at least 18 years of age.

We strongly commend these courses to any real-farmer or near-farmer who can take them even in fractional amounts. One can hardly come into contact with the University Farm instructors and with the illustrative material they have in corral, field, orchard, vineyard, creamery, workshop and laboratories, without waking up some hidden line of thought which will continue to rub its eyes for months and give him no peace until he learns to do some better thing. Besides, the acquaintances one forms among others, who are living the same lives and have the same problems, are not only a great social joy but of great practical helpfulness. Socially, too, they are mighty good for Pa and Ma, who may need to be taught, by actual sight, that there are no dearer people in the world than they themselves — mighty good also for bachelor uncles and aunts, for each of them may catch sight of the joy which life actually has for them, even though they had begun seriously to doubt it. We have had some experience with Short Course work and we are free to confess that we have been surprised to learn how many charming girls, of forty odd, there are in the world—and what fine farms some of them have also and how much they need companionship and protection. And probably many a lady in our class of years can conscientiously invert the proposition from a feminine point of view. Therefore we say to all who are alert for doing better in the world —especially for those who desire to branch out of themselves and their hitherto narrow environments—go to the University Farm during the next six weeks. As the announcement says, years are no detriment, providing you have enough of them.

A "Mix-Up" in Rural Credit.

We regret to say that the "statesmen" who are reveling in rural credit dissipations in this state are falling into sad confusion. When one makes a public oration on "long-term credit" another orator is apt to follow on "short-term credit" and they may diplomatically lambaste each other for contrary opinions, but most ineffectively, because the punishment does not meet the crime. A most dramatic exemplification of this fact occurred at last week's Exposition congress. Ex-Governor Herrick of Ohio spoke on two days on the two branches of the subject. The first day he spoke on long-term credit and favored government aid for some phases of it, as we stated last week. His subject was "Reclamation of the Public Domain a Legitimate Use of State Aid." The second day's address dealt with ordinary mortgaging and short-term credits, for which Governor Herrick prescribed not state aid or guaranty but improved laws which would enable the people to do it for themselves. On the program Professor Mead followed Governor Herrick and he was intrduced by the chairman, Mr. Rowell, as favoring state aid as demonstrated to be most salutary in New Zealand and Australia, and he made a very clear and forcible address on that line favoring the pending constitutional amendment No. 5, which we shall vote upon on October 26, as capable of building up California. The audience generally took it that Professor Mead's speech was controverting that of Governor Herrick which immediately preceded it, whereas the fact was that it was generally in accord with the speech which Governor Herrick made on the preceding day. Governor Herrick did not say whether he would include State credit for purchase of land for colonization with the National credit for reclamation of public domain, but it is fair to presume that he would, for the purposes, motives and methods are similar and all very different from mortgage transactions and other credits, for which he holds that State aid is neither desirable nor necessary. This is the first mix-up.

Another Uncreditable Mixture.

The first mix-up, mentioned above, would hardly be worth mentioning except for its possible influence upon the voting upon Amendment No. 5 on October 26. In the pamphlet now being sent to all voters entitled "Amendments to the Constitution and Referendum Measures," there is the following, as it will appear on the ballot:

> **RURAL CREDITS.** Senate Constitutional Amendment 17, amending section 31 of of article IV of constitution. Present section unchanged but clause added authorizing Legislature to provide land colonization system, establish rural credits system in aid of agriculture, authorize issuance of bonds secured by first mortgages on farms, declaring same exempt from taxation and acceptable as security for public deposits, provide for state participation in rural credits system by establishing trust fund, authorize trustees thereof to issue bonds, guaranteed by state, upon securities thereof, and deal generally in rural credit bonds. Authorizes Legislature to effect purposes of section notwithstanding contrary constitutional provisions.

As the law provides, the pamphlet contains brief arguments for and against this amendment. The arguments favoring this amendment are by Senators Brown and Madux and every voter should read them as the pamphlet comes to him. The argument against the amendment is by Senator Ballard and it is largely made of quotations from Mr. Herrick's book entitled "Rural Credits" and from the reports of the "American Commission on Rural Credits." This is proper enough, of course, except that the same mix-up occurs, because Mr. Herrick is quoted as against all state aid when, as seen

above, he is clearly in favor of state aid for certain purposes, and developed that view in detail in the first of his Exposition addresses. This fact should be borne in mind by voters, as they read their pamphlets, for, if it matters what Governor Herrick thinks, it certainly matters that his convictions and the conclusions from his long study of the subject should be correctly understood.

As we have previously stated, the statesmen who are working for rural credit facilities in this state have in mind to provide for more than amortizing loans for those who are qualified to take up State-subdivided lands. They propose also to furnish them shorter loans for buildings, stock, implements, etc., and the legislature is capable of doing all that if the enabling amendment to the constitution is passed. Whether they will undertake to refund mortgages on lands not sold by the State is another question which is not involved in the present issue and which will not arise at first, probably. Whether the State does it or not, there can hardly be any doubt that the influence of State transactions will be to induce others to handle this business at much less cost and easier terms than now prevail. Our readers will of course consider this matter carefully and vote as their judgment dictates. We will only suggest that as most proposed amendments to the California constitution concern themselves with forbidding rather than promoting it may be just to loosen up the document a little so that producers may be able to carry on their legitimate and essential business of feeding people with a better chance of a square meal, now and then, for themselves.

For Juster Taxation.

There is another amendment to be voted upon October 26, which we also commend for careful attention. It is this:

> **TAXATION.** Senate Amendment 38. Amends constitution article XIII, sections 1 and 9, repeals sections 10 and 14 thereof. Declares Legislature shall provide by general law for taxation, classify subjects thereof, designate classes wholly or partly taxable for state, county, municipal and district revenues, same class being uniformly taxed within territory of taxing authority; may make tax in lieu of other taxes or licenses; tax commission to administer state taxation. Defines exemptions. Declares completed assessments not affected by section. Continues in office present board of equalization members until January, 1919, and present duties thereof, and existing laws, until changed.

As we understand this it is to provide a means by which the existing law adopted in 1910, largely by the vote of farmers who energetically worked for it for several years, may be administered more justly. In spite of the evident purpose of that law of 1910 which was to fairly apportion burdens between corporations and private owners, the former managed to shoulder the lighter load because of the continued operation of the old methods of assessment and equalization, which did not "equalize," and the legislature has been forced to raise the rate of corporate assessments twice by direct legislation. The new arrangement simply makes it possible for the legislature to amend the tax-machinery of the state so that the law of 1910 may be administered in its spirit of equal burdens upon all property of the same kind and provides expert agency for ascertaining just what is equality in these lines. It is held that the change is in line with the laws of other states—nearly two-thirds of the states of the Union provide for an appointive tax body.

Will This Be One Lesson of the War?

It is impossible to foresee how much the current plague of mankind will really teach those for whom the sun will continue to shine at its close. Owing to the high prices which buyers for Germany have been willing to pay for foods, Swedish speculators have sold the country so short of supplies that the people are in danger of starvation. The account says that the Swedish government has forbidden exports and has appointed food commissioners which are already fixing maximum prices on the ordinary food commodities. Milk which has been selling for about 6 cents a litre has already fallen to 5 cents, at the instructions of the commission, and a maximum price of $6.25 per hundred kilos of wheat has been set by the government, to last until the fifth of October. This is telegraphed from Stockholm: "It is thought that the prohibition of exports and the recommendations made by the commission will effectively reduce the speculative prices which now prevail, but to further help in the matter and to do away with the middlemen and agents' commissions, the government has established a food bureau, with branch offices all over the country, to buy all available supplies and sell them directly to the consumer without profit."

Who can be sure that this necessity of war may not be a blessing of peace? And yet what a hullabaloo is being made because California is only trying to go a little way to help producers get what their products are worth!

Queries and Replies.

Querists must give name and address

Sweet Clovers for Hogs and Sheep.

To the Editor: Have any of your readers had any experience with sweet clover as pasture for hogs or sheep? How about its value as compared with alfalfa? Also, which is the better variety—white or yellow? Where can I get best seed, method of seeding, etc.?—C. P., Lone Pine.

There was much information about growing these plants in connection with their use as cover crops on page 220 of our issue of September 4 and on page 246 of the issue of September 11. For forage purposes white sweet clover is the one to grow, because the root lives two years instead of one year, and the flavor is less objectionable to stock. In nutritive qualities white sweet clover resembles alfalfa, but animals have to be taught by hunger to like it. They will not usually eat it if other forage is to be found. But there are stock feeders who speak well of it. In our issue of January 2, 1915, W. S. DeWitt of St. Helena gave a detailed account favoring it. We shall, however, be glad to have wider recital of experience. Who grows sweet clover for stock of any kind, other than bees, and finds it profitable? All advertising seedsmen can furnish you the seed.

Frosted Corn and the Silo.

To the Editor: Please tell me if it is advisable to use frost-bitten corn for silage. We have twelve acres of good corn frosted two nights ago, and wonder if it would pay to cut for silage now, and whether cows would eat it. —R. W., Mendocino County.

Why don't you keep quiet about it? What right has California to have frosted corn in September? Of course we have to go East to learn about frosted corn. In his book on "Soiling and Silo Crops," Prof. Thomas Shaw of Minnesota says: "When corn is struck with frost and is then allowed to stand for some time it will be greatly injured for feeding. But if when thus stricken, the crop is at once cut and put into the silo, the value of the silage made from it, though reduced, is not seriously impaired."

Grafted and Seedling Walnuts.

To the Editor: I would very much appreciate a statement of the present relative extent of seedling orchards and grafted orchards of the Persian walnut in California. Could you give an estimate of the relative yield of somewhat similar orchards differing practically in no other respect except that one is seedling and the other grafted? I should also be glad to have information as to the relative merits of grafted trees on Persian roots and on native black.—J. R. S., Round Hill, Va.

It is too soon to make such a comparison as you desire, because, though grafting is now strongly leading, it has been largely done during the last five years, and the trees are too young to act as an appreciable factor in the present commercial production. Our product is still from seedling soft shell trees, but each coming year will see a larger grafted encroachment upon it. Comparisons between the bearing of the two kinds of trees is impossible for the same reason—except, perhaps, for single trees or small groups of them. There is practically no grafting on Persian roots except in working over large trees. Nearly all grafted orchards are on black or hybrid walnut roots.

Lime for Soil Texture.

To the Editor: How should lime be applied to improve the texture of adobe soil of a prune orchard? After plowing or before? In the spring or fall? How much lime to the acre? Is ground limerock better than lime for this purpose? The orchard will be irrigated as soon as the prunes are all picked. What other method of improving this kind of soil do you recommend?—W. B. H.

There are all kinds of ways and no general agreement. If you do not mind wheeling or tramping over the plowed ground you can spread after plowing and avoid burning your horses feet and your own shoe leather. It is easier to spread before plowing, and in that case do it some time before, so the rain may slake and carry much of it into the ground—that is, do not lime and plow immediately. Liming should be done early in the rainy season. Caustic lime acts on texture more quickly and effectively than ground limestone. Other ways to improve texture are to use stable manure and grow cover crops—also to watch and work the soil when it crumbles best. You can use 500 lbs of lime per acre and keep doing it for two or three years.

Winter Cover and Pasture.

To the Editor: Which is the better, hairy vetch or rape, to grow as a cover crop, on gravelly, clayey soil? I would also like to use it for green feed. The ground is not inoculated for veteh to my knowledge. How much would you sow per acre—alone or with oats — of both plants?—W. O. W., Livermore.

We would not use rape in such a way. We would sow about 30 lbs. of vetch and 30 lbs. of red or black oats per acre. If your land grows bur clover naturally it is probably inoculated all right.

Machine Guns on Citrus Gray Scale.

Gray scale has spread to all citrus sections of the State, though the first practical control work was done in the season of 1914.

[Written for Pacific Rural Press.]

"Last year there wasn't a fumigating machine used in Tulare county," according to Horticultural Commissioner Chas. Collins, "only the old generating pots were used, but this year there is nothing but fumigating machines."

The machines work easier, better, and more quickly than the old fumigating pots, without danger of burning the tents or men, and with less danger of suffocating the men.

Quick Work Needed.—Where the gray scale has come, there is much need of quick and universal work. One orchardist near Lindsay, who last year refused to treat his trees because there were only a few gray scales scattered on isolated branches, has found his whole orchard infested seriously this year and is both spraying and fumigating.

Last year the county had several outfits fumigating orchards, the county paying the cost, which averaged 33c per tree for the season, and collecting from the orchardists. Since this led to legal difficulties, no county outfits are operating this year, but quite a number of contractors have rented "cyanofumers" from the Braun Corporation of Los Angeles to use in the work. Similar machines are also made by another corporation and in use in southern California. The contractors charge about 15c per tree for the fumigation and about 75 of the cyanofumers are kept busy until late in the season, besides machines of the other make. The cyanide costs about 2c per ounce, the usual dose being 8 to 10 ounces per tree. Some of the orchardists furnish their own cyanide and sulphuric acid.

Each gang of five men uses one machine and about 45 tents. The tents are all filled with gas and left on the trees 45 to 55 minutes, leaving time to rest between each "set." It used to require 6 to 8 minutes to generate the gas in the pots after they were set under the tents and five men could handle only ⅔ as many tents. Now, the machine with one spurt fills the tent accurately and a horse pulls it ahead as fast as the "taper" can measure the tents.

They expect to continue work until the middle of October, though the amount of cyanide required to kill the scale has already been increased about 10 per cent and may be increased as much as 25 per cent before the effective and safe limit of fumigation, which is about the middle of November. The scales are all the time becoming more resistant but the fruit is less tender to the cyanide burning. Humidity of atmosphere or tender succulence of fruit and leaves when young, increase the danger.

Discharges Correct Amount.—The machine rests between two wheels and is pulled by one horse. It consists of two tanks bolted together, one above the other. The upper tank surrounds the bottle-like neck from the lower one and contains 12½ gallons of sodium cyanide solution.

The solution is made by punching holes in the bottom and low on the sides of two 200-pound cases of sodium cyanide and setting the cases on bars submerged two or three inches below the surface of the water in a 100-gallon tank. The cyanide dissolves and is withdrawn to fill the machine at the end of each setting of the tents. Then if the average dose for the one set is estimated at 10 ounces of cyanide per tree for 45 trees, they place in the lead-lined, bottle-shaped acid tank about 3½ gallons of sulphuric acid. Slow explosions indicate that the acid has most all been used. On the outside of the tank is a graduate indicating the ounces of cyanide used. A movable block is set at the correct mark when the taper calls out the measure of the tent, and the "generator" raises a knob sliding over the graduate up to the movable block. This draws the required amount of cyanide solution into a chamber below the graduate. Then the generator pushes the knob down and this forces the cyanide solution through a check valve and a pipe up to the top of the machine and down through the neck into the sulphuric acid solution. The cyanide combines with only the correct amount of sulphuric acid and explodes.

The hydrocyanic acid gas created by the explosion passes through an open-ended lead pipe which extends from the neck of the acid compartment down to a big hose about ten feet long whose end has been previously placed under the tent.

The force of the explosion used to blow up the other side of the tent and waste some of the gas, besides tending to burn foliage, so a muffler placed over the end of the hose now breaks the force.

When all of the tents of the set are filled, the machine is returned to the supply tanks to be refilled. On the way a dragging hose is opened to empty the corrosive residue from the sulphuric acid tank in a small stream midway between the trees. At first, a sediment was found in the pipe through which the explosion passed to the hose, but now it is found that filling the pipe with water at night dissolves the sediment without further trouble.

PRUNES PEACHES TO SAVE TREES.

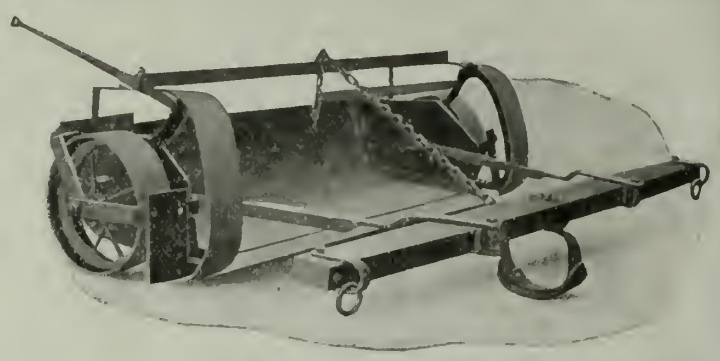
[Written for Pacific Rural Press.]

The most expensive orchard practice we know is pruning so the fruit and leaves grow out on the ends of the limbs; shade the inside of the tree tops so that no fruit can develop, and so they pull the top open in midsummer and expose the inside to sunburn, breaking the limbs until the tree is all out of shape and half out of commission.

G. B. Abbott of Corning prunes peach trees to repress top growth. This leaves the center open and encourages the development of fruit shoots in the body of the tree, which bear the biggest, best fruit where it is easy to pick safely and with less labor and time. His system saves the trees from breaking and sunburn.

Richard F. Burgess of El Paso, Tex., was elected president of the International Irrigation Congress at Sacramento on Sept. 18.

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Horses Push Bean Harvester.

Horses pulling bean harvesters tramp out many beans, working hard. They push this one easily walking on clean ground. It may be made at any blacksmith shop. The inventor will not patent it.

[Written for Pacific Rural Press.]

Harvesting blackeye beans on a large scale is rather unsatisfactory with even the best machines in general use. Yet the acreage of blackeyes has recently greatly increased in some sections of the State, including Stanislaus county. T. J. Crispen of Modesto has had two crops on old alfalfa ground. Last year's harvest required four mules to pull a sledknife arrangement to cut two rows at a time on account of the heavy intertwined growth.

His neighbor, H. B. Brubaker, had similar troubles, and he did not like to have his horses walking on the beans in order to pull the sled knives. They tramped out and wasted too many, and it was too hard on the horses.

To design and build a machine, to be pushed by two horses which would walk on clean bare ground, a machine which could be operated by the driver and would not work the horses too hard, became Mr. Brubaker's steadfast purpose; and he succeeded in spite of the difficulties pointed out by his neighbors and overcome by himself. On account of ridicule for the first weeks of active work on it, he took all of the blacksmithing to various country shops. "Everybody shot it to me hard and heavy—said it wouldn't work." Each difficulty overcome, a test was made and new troubles arose, so that it was not until late August of this year that it was in satisfactory working order.

Since Mr. Brubaker is a Dunkard, one of a people who do not believe in making use of the law, he will not patent the machine for fear it would be necessary to prosecute infringers, but, he says, "I tell people that whoever does patent it can pay me what he thinks the idea is worth to him."

How It is Made.—We describe the machine below. It is built in two parts, the knives being raised or lowered, for turning at row ends or on uneven ground, by a lever adjustment working on a 4x6 laid across the axle of two iron wagon wheels 2½ feet in diameter and four feet apart. The cutting knives are at the front end of the 4x6 which serves as a tongue on either side of which a horse walks. Under the back end of the tongue is a sharp-edged wheel two feet in diameter working in a pivot casting from an old buck rake, to guide the whole outfit. The pivot of this wheel has a gaspipe extension, and a short horizontal piece at the top, so that the driver straddles it and guides the wheel with his legs on the trip across the field, like a header. Just in front of the driver and fastened to the tongue between the horses is the adjusting lever of an old corn plow or something. From this, a piece of gaspipe extends forward to a strap iron, bent to the shape of a hand cycle used in cutting grass. The gaspipe reaches to the upper or handle end of the cycle. A double iron strap is bolted to the center of its curved part, and reaches vertically to another bolt through a pair of straps fastened to the tongue. The point end of the cycle supports the frame including the knives; and is connected by a bolt which permits the knife frame to be raised and lowered within a fixed frame fastened to the tongue and wheels. These frames are of dressed 3x4's and are strengthened at corners and all places of strain by strap irons. They might as well be heavier, for two sacks of dirt are now used as a weight to force the knives quickly into the ground when their frame is lowered at the beginning of the rows.

The knives are 4½ to 5 feet long, three inches wide, set at an angle of about 60 degrees with the point forward and the heels about 5 feet apart. Forward from their point is an upturned extension about a foot long which is to run along the surface between the rows. The knives are held in place by 3x4's set at the same angle just inside and along the knives. A vertical 3x4 rises from their apex and its top end is braced with strap iron back to the crosspiece of the knife frame. This strap iron also extends forward to hold the top end of a slanting three-inch roller which rises from the extension of the point of the knives, and serves to separate the tangled vines. Galvanized iron sheets just above the knives encase the frame and shove the vines to either side.

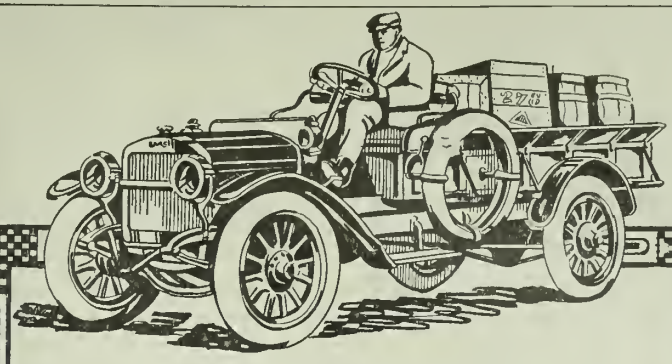
A broad 10 inch wheel just inside the angle of the knives and fastened to the vertical 3x4, serves to hold the knives from going too deep under the surface.

Improvements Proposed. — Now for improvements. The two wagon wheels are 4½ feet back of the front end of the tongue. When they run over a levee, it takes quick and excessive work with the lever to let the point down to continue cutting properly on the other side. To remedy this, it is proposed to let the tongue rest on a larger wheel in the apex of the knives, do away with the two wagon wheels, and use two disked-rimmed wheels side by side at the rear end to guide and prevent tipping over.

Where there is such rank growth of vines as on Mr. Crispen's field and on part of Mr. Brubaker's field, the roller does not separate them and they bunch up. So a plow coulter will be arranged so it can be lowered when a patch of heavy vines is reached and cut them just ahead of the knives.

The beans are planted in rows 28 to 30 inches apart, the two horses easily work the machine all day, shoving four rows of vines into two windrows where they cure. The machine will work across rows to work on the driest parts of a field first. Mr. Brubaker has calls to harvest the beans of many more of the surrounding previously ridiculing neighbors than he can possibly do. Mr. Crispen has discarded his old sled and engaged the new machine for his 75 acres. Others of Mr. Brubaker's neighbors are already building similar machines for the present harvest.

Prof. E. R. Lake, a government walnut expert, was in Stockton recently studying the possibilties of that section as a walnut growing center.



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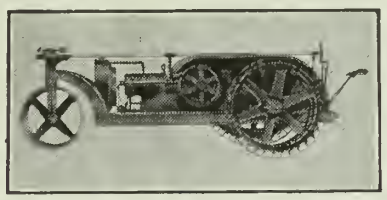
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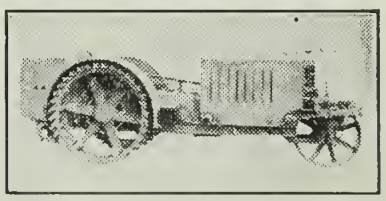


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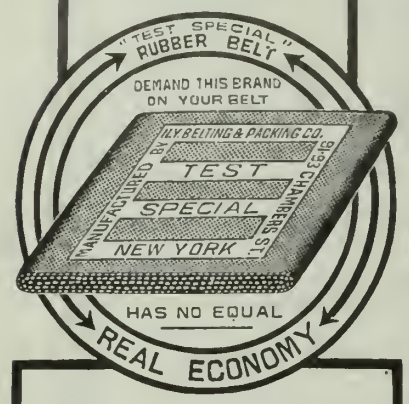
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Dried Albertas Eight Cents.

[Written for Pacific Rural Press.]

"I sold a ton of dried Elbertas at 8 cents a pound last year to private customers," says G. B. Abbott of Corning, who has 3 acres of them which yielded 25 tons green last year.

This year, Mr. Abbott has been meeting eastern folks who have come out West, and making arrangements to send them samples of his dried fruit. They will use these samples to take orders on a percentage basis among their friends in the home neighborhoods at the ordinary retail prices where they live. Peaches will be shipped in bags or 25-pound boxes. His mother has kept some of his dried peaches shipped this way to the far East for two years without spoiling.

This will advantage Mr. Abbott by eliminating the large loss between producer and consumer, and will advantage the consumers very greatly, for Mr. Abbott's dried peaches look good enough to eat; in fact, they are splendid examples of the results of good cultivation and thinning and of clean careful cutting, sulphuring, and drying.

He grades them into 1sts and 2nds when they are just dry enough to handle, piling them up in rather thick layers on the trays to finish drying more slowly. His No. 2s are better than the average dried peaches we can get on the San Francisco markets at 15 cents per pound.

"I was offered 3 cents per pound for my No. 1s by the agent of a San Francisco packer last week," says Mr. Abbott. "This is better than I did last year on my crop of Muirs, which were stored until June, 1915, at a disheartening cost for grading, storing, insurance, picking, and drying, and sold in June at 2½ cents straight. I do not like that kind of business. No use grading for the packers. They want that profit. If I sell to the California packers I must pay their local buyer his commission; also the general agent of the company; and also lose the weight which the company puts into them by wetting and resulphuring, which is enough to pay all the expenses of packing."

WHAT THE HALE PEACH IS GOOD FOR.

To the Editor: In the Press for Sept. 11th, "S. H." writes of the J. H. Hale peach and states that the flesh is so red around the pit that it discolors the juice when canned. During the past week one of the great canneries of the state made a small-scale canning experiment with this variety. Here is the verdict: "Fruit stringy, coarse, badly frayed. Syrup a dirty, offensive-looking compound."

Basing our opinion on fruit that has come to us from Nevada and Placer counties, we are satisfied that J. H. Hale is a magnificent, main-crop, shipping peach. When that is said, all is said. It is not a canner in any sense of the word. We believe the nurseryman who introduced J. H. Hale is right in proclaiming it the greatest market peach, but think he goes too far in recommending it for canning. In our own catalogue we allude to the fact that it has the fine texture and firm, heavy meat of the clings—using the comparison to describe the character of the flesh—but we have not felt justified in recommending it as a competitor for the the clings in the canning field. J. H. Hale is very large, highly colored, beautiful, firm, extra heavy, good quality, a fine shipper, and a perfect freestone, ripening with Elberta or a little before. Where a peach of the Elberta season is desired we believe J. H. Hale will be the most profitable kind to plant, but if your San Jose correspondent wants canning peaches he had better carry out his own suggestion without delay and graft his trees to Tuscan or Phillips.

Your Modoc county correspondent, whose thrifty Lambert cherry trees bloom well but do not hold their fruit, will most probably get satisfactory results if he will graft a few of the main limbs to Llewelling. The latter is said to be one of our best cross-pollinators, and we assume that his trouble is in that direction.

Grass Valley. A. L. Wisker.

MEADOW LARKS AND FIGS.

To the Editor: When a subscriber needs help and asks for it through your columns it seems to be equivalent to getting the advice of every farmer in California and half of Missouri. I need some help. I have a three-year-old Kadota fig orchard which came into bearing this summer, and when my second crop of figs ripened about Aug. 10 the meadow larks swarmed into the orchard and despite all protests on my part decided to camp there. They flit about in sociable groups of 5 to a dozen to a tree, and sample hundreds of figs and move on to the next tree. Then the pumpkin bugs climbed up and finished the figs which were pecked into by the birds or stayed on the ground and ate the punctured fig when it ripened and fell. I could get nothing salable out of the figs either way. In a considerable portion of the orchard the bird damage was certainly one dollar to the tree. I was shipping the figs fresh when the birds came, and as my third crop will come on in a few weeks and continue until Thanksgiving, if the sun shines, I desire to be advised how to abate the nuisance. Since it is unlawful to shoot the things and they are poor eating, I cannot induce sportsmen nor near-sportsmen to come and help me shoot. Tell me how to poison or trap them and still keep out of jail, and yet save my figs the balance of the season, and next year also.

Sultana. W. Sam. Clark.

[Who will help Mr. Clark save his crop?—Editors.]

PEACH DRYING ON HORSES.

[Written for Pacific Rural Press.]

Part of the credit of the exceeding high quality of G. B. Abbott's dried peaches last season was due to the system of drying part of them on wooden horses two or three feet off the ground, and the rest of them on clean bare ground where bur clover had ripened and been cleaned off.

The wooden horses make a great deal less work laying out trays, make it lots easier to grade, and to double the fruit up when nearly dry; keep poultry off, and allow air circulation over and under the trays, and avoid most of the dirt which blows along the surface of the ground, or is lifted and spread by little whirlwinds.

COYOTES FOR CHERRIES.

To the Editor: Tell G. W. C. of Standish, Modoc Co., to kill some coyotes and bury one 2 ft. deep and 4 or 5 ft. away from the trunk of each cherry tree. I have made barren trees fruitful by burying dead animals at the roots. I never burn a dead animal. Butcher's offal is equally good. Sam'l. Haigh.

San Jose.

The biggest alfalfa crop of the season is reported being cut at this time in the Earlimart section of Tulare county.

Kill Morning Glory
NOXIOUS WEEDS
AND INJURIOUS INSECTS.



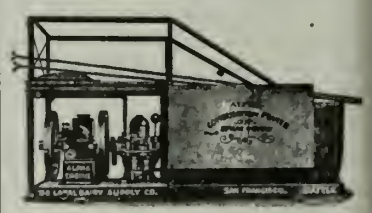
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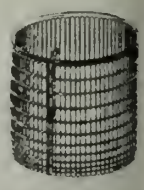
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CREOLIN FOR CORN-EAR WORMS.

TO THE EDITOR: Apropos of your notes on the corn-ear worm in the Pacific Rural Press of August 21 and September 4, I would state that this year I sprayed one row of sweet corn with a solution of Creolin, a tablespoonful to a gallon of water, as soon as the silk appeared and only found one wormy ear. The adjoining row had not a perfect ear in it. This row was not treated, but left as a check row. Powdered arsenate of lead, I think, would be of little use here on account of the strong winds that blow throughout the summer months. I will test the two side by side another year.—Samuel Haigh, San Jose.

Making Apricot Trees Bear Young.

[Written for Pacific Rural Press.]

Young apricot trees send out limbs which grow unbranched for several inches, then throw out laterals all along. The reason many orchards do not bear young is that these brancnes are cut off below the laterals, according to F. E. Goodrich of the Santa Clara valley.

When the trees are a year and a half old, Mr. Goodrich prunes to get fruit. This is done in the fall or winter. He leaves 4 to 6 of the laterals on the new growth and claims he gets 50 to 125 pounds of fruit on 4-year trees. He did this on a 16-year apricot orchard pruned this way while young; and it practically always bears all that the trees can mature. The neighbors at the time he pruned that way said he would kill the trees because he developed so many fruit buds by leaving the laterals. "But there are no better apricot trees in California now."

The laterals are cut off to about 3 inches long and next season they are full of fruit spurs. The year following, these spurs are full of fruit. The young orchard now 20 months old will be pruned in the same way this fall.

The same system of pruning is followed until the tree is as tall as it should be for convenience in spraying and picking. The young growth is cut off below the burst of laterals to keep the growth down. This is allowable because there are plenty of fruit spurs throughout the tree at that age. But by cutting off the young growth of young trees below the laterals, the fruiting age would be delayed 2 to 4 years.

WANTS BETTER PRICES FOR ALMONDS.

To the Editor: I wish to make a comment on what has been done this fall in the way of selling our almonds. Money matters are tight, but there has been no panic and no real reason for the money being squeezed so tight that the Indian's head has turned red. It is true there is an uncertainty about the future which makes people extra cautious. Certain buyers went over the country telling the independent growers that the market was bad and would not reach 15c top price this season. They continued to hammer the price down until the grower got scared and closed contracts long before harvest time. From one to three months before he had anything to deliver, he cut the price down 3 to 4c per pound lower than last year, in the face of the very fact that we have imported from 15,000,000 to 18,000,000 pounds of almonds yearly from the south of Europe. This importation cut off this year, the grower allowed the buyer to scare him into cutting the price and they were able to secure a considerable tonnage. These same men instructed their brokers to sell to the eastern jobber ⅛ to ¼c per pound less than the opening prices named by the State Exchange. Hence the disastrous results in naming prices by the California State Almond Growers' Exchange.

No doubt the State Exchange is perfectly able and capable to look after their own business and interests, but here is a point they overlooked. While they may represent 900 growers, there are many more independent associations in the State that are working and striving to the best of their ability to maintain a price that will pay the producer and at the same time allow the nuts to reach the consuming public at a price that they can afford to eat them.

We of the Durham Almond Growers' Association have this year tried to maintain prices and were somewhat steadying the market until the State Association made public the price which they named—and it was no price at all. And for what reason did they name 15c as a top price where it would have been just as easy to name 18c or 19c and they would have got it just as quickly. I believe the State Association has this year dealt a blow to the almond industry that it will take years to overcome.—C. A. C., Durham.

[We are disqualified from answering our correspondent's question. Probably the Association knows a lot more than we do why they should name the price they did. We would not be surprised if it should appear later that they know more than our correspondent does about the situation this year. How does he know that European almonds will not be imported? They are not grown in the war zone and Europe will surely try to sell us everything they can deliver. As for the general prosperity of California producers, we think we know that the way to get prices right and otherwise advantage the business for producers is to forsake opposition as independents and get into the boat which is going to cross over. If the boat is not steered right you can change its course better by getting hold of the rudder than you can by trying to make waves on the ocean.—Editors.]

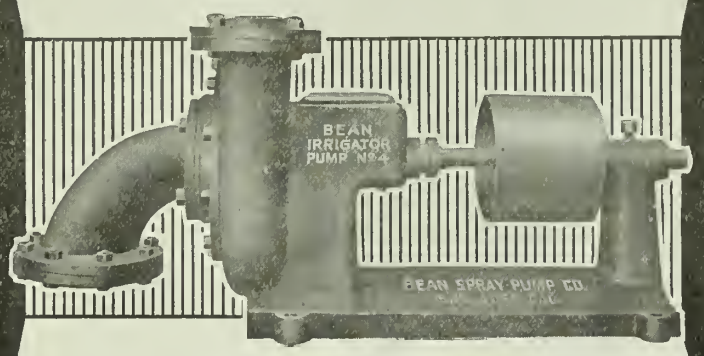
L. and C. Moreing of Stockton are busy putting their 25,000-acre tract on the Natomas Consolidated section on the Sacramento river under cultivation; before the end of the year they expect to have all their wheat and barley sown.

Get All the Water

Lack of water is not always the fault of the well—it is often the fault of the pump. No matter how good a well you have, if your pump is not right, if air leaks in around the shaft or if you have to tighten up the stuffing box till there's excessive friction, or if for any other reason your pump does not do efficient work—you cannot get the quantity of water your well should yield.

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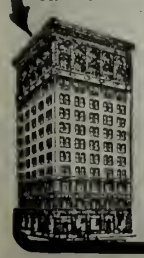
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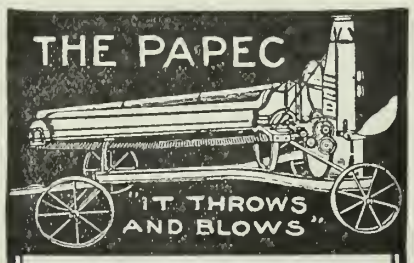
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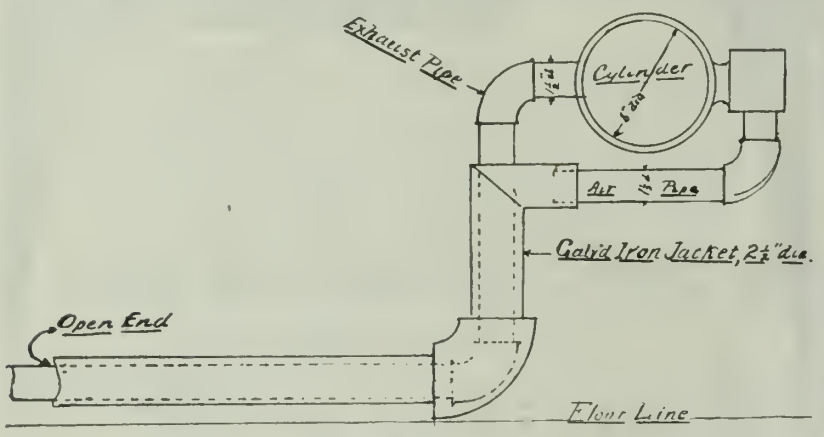
Mechanical Power on the Farm.

[Written for Pacific Rural Press.]

HOT AIR THAT MADE THINGS GO.

To the Editor: As many of your subscribers are no doubt owners of gas engines for pumping water and other purposes, it may interest them to know how I overcame the trouble we had with our 6 h. p. engine. We bought it 4 years ago; for 1½ years it ran fairly well, then for no apparent reason it began to "buck" and sometimes I would give up in despair attempting to get it started. We had several so-called experts tinkering at it, and each one declared that the other fellow knew nothing about it. After following their advice and allowing them to carry out their theories at our expense, which, by the way, in two seasons mounted up to nearly one-half the original cost of the engine, I concluded to try my hand at it myself. One expert said the cylinder was untrue and would have to be rebored, and a new piston cast, etc. This was done, but still the exhaust vomited thick black smoke when first started. They all had different ideas as to the cause, but none of them could remedy the defect. To run the engine at all the damper in the intake air pipe had to be partly closed and the relief valve left open or the engine would only run for a few minutes and then stop. I thought that possibly the oil was at fault, and had the oil company send down a man to test it. He said I was using too rich a mixture of distillate, in other words, too much oil and too little air, and to remedy it he opened the damper and closed the relief valve. As the engine was hot this worked for awhile and he left impressed with the idea that he had solved the problem. For an hour or so it appeared as though he had, then it began to slow down as usual and finally stopped; the imperfect combustion coating the ignitor points with soot as before. Last winter having abundant leisure I determined to find out what the trouble was. My first experiment was to draw off the cold water from the water jacket and refill it with boiling water. For awhile this worked fairly well, though I had to remove and clean the soot from the ignitor every few hours. In my next experiment I attached to the intake air pipe an apparatus for heating the air as it passed through this pipe, but as the lamp took fire once or twice I considered this too dangerous. I now could see that if I could manage to heat the air as it entered the intake air pipe my troubles would be at an end. I therefore purchased 10 or 12 feet of 2½-inch galvanized sheet iron leader pipe, and two elbows, one 2½-inch one and one 4-inch one; this last one had to be large enough to allow the 1½ elbow of the exhaust pipe to be enclosed within it. The enclosed sketch will explain how I arranged the heater. Since installing this device I have never had a minute's trouble in starting or running the engine, and can now go away and leave it for hours with the assurance that it will run all day if kept supplied with distillate, lubricating oil, and water for the cooler, as the combuston in the ignition chamber leaves no deposit of soot on the platinum points as was the case before I attached the heater, therefore the ignitor does not require to be taken out every day. The galvanized iron pipe and elbows cost $1.25. The elbows are capped and circular holes cut in the caps for the insertion of the exhaust pipe in the square elbow and larger ones in the 4-inch elbow to take the jacket pipe. (See sketch enclosed.) Samuel Haigh.

San Jose.



Samuel Haigh's hot-air attachment for gas engine.

CONCRETE PERMITS STEADY PUMPING.

[Written for Pacific Rural Press.]

On Geo. Roeding's alfalfa farm near sanger they "pulled the bottom out of their well" and the alfalfa seemed likely to go thirsty last August. At this critical time, C. F. Walker, whose ranch adjoins the alfalfa field, came to the rescue.

For 18 days and nights his 25 h.p. Fairbanks Morse engine pumped steadily, except Sundays, with only one stop on account of a dirty spark plug. They used a No. 7 centrifugal pump and a single well, but Mr. Walker thinks he could get more water from a double well and a No. 6 pump.

The remarkable continuous running was very largely due to the concrete base which holds the engine steady with "no jar at all." The engine rests three feet below the surface on a large concrete foundation reaching 4 feet farther down to the hard-pan.

"I spent extra money to get it solid," says Mr. Walker. "It paid me, though," and was fortunate for the alfalfa.

Peach growers of the Richfield colony of Tehama county did not lose the season, for many of them grew corn between the rows, irrigated by electric motor-driven pumps and both the orchards and the intercrops are thriving.

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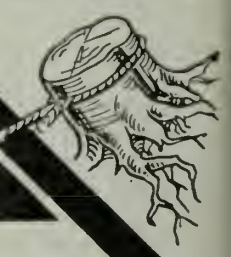
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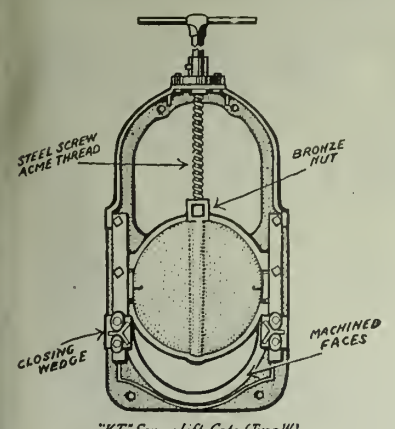
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PUMP FOR EARLY FALL PLOWING.

[Written for Pacific Rural Press.]

In Merced county is an irrigation ditch system from which most people can get water until a very dry, hot time of the year, about August, when they must hope for rain or something, even in this year after two wet winters. Landholders must contract to pay $2 an acre for the ditch water whether they use it or not, but unless they have the supplementary irrigation they must raise early maturing crops.

The Meadowbrook Stock Farm is more independent than most because the main canal runs through their place and they pump from it after other people have irrigated by gravity for the last time.

A 12-inch centrifugal pump run by an old Johnson tractor engine supplies what is needed for the 640-acre farm. This permits them to water the land so they get early fall plowing.

DAIRY DUE TO AUTOMOBILE.

[Written for Pacific Rural Press.]

A cream haul of 11½ miles would have prevented the establishment of a dairy a few years ago, but it doesn't worry F. L. Cooke, who has about 20 head of purebred and high grade Jerseys near Corning, nine miles from a creamery in one direction and 11½ in the other.

He is working up a fine herd, developing the old grain land into alfalfa and starting the purebred dairy stock idea in the grain and fruit country which badly needs stock.

This is all made possible by his ability to dispose of the cream even at a distance. He finds it more desirable to run down to Orland 11½ miles three times a week with his cream in the automobile.

"I run around in it; it's an actual necessity."

STATE MARKET DIRECTOR.

To the Editor: Answering one of your subscribers asking the present status of the McPherson State Commission Market Law, I would say that as yet the Governor has not made his appointment of the man who is to serve as general director of the market. Until the Governor makes that appointment the entire law is held up.

In the last letter which I have received from the Governor in regard to this matter it is evident that he is giving it serious consideration. He says: "The appropriate man may be found whose genius is so transcendent that he can take up this bill and do great good to the state. It was upon the theory that, if the proper man could be appointed with the initiative and the vision necessary, the results might be in a degree accomplished. To administer the law successfully will require the very best brains that can be found."

I believe the Governor is taking the vesy best attitude in the matter, for I am sure none of us wish to see the market installed until it can be installed properly. The more I have investigated the subject the greater have I found its problems, and under the circumstances the progress so far has been most satisfactory.

Santa Cruz. H. E. McPherson,
Assemblyman 43rd District.

Little Stories of Success

No. 9

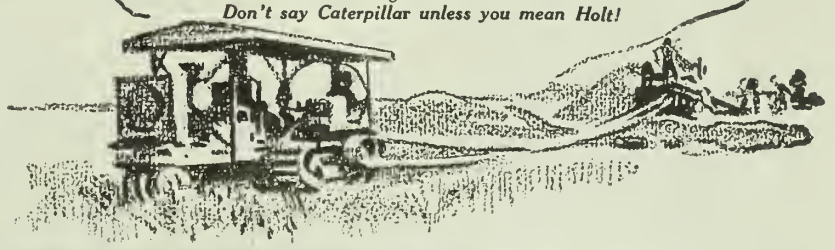
Mr. Fred Rollins of Chico, who bought a Caterpillar "60" in March, 1914 — and incidentally cleaned up $1700 the first month he owned it, plowing night and day for his neighbors — dropped in the other day to tell us bis story of success.

Much of Mr. Rollins' work with the Caterpillar has been stationary work, and for this he says the Caterpillar has them all beat. In the rice fields, where a separator sinks in mud up to the sills, Mr. Rollins can go with the Caterpillar, and be ready to run right away without stopping to build up any foundation or blocking for the tractor. He threshed a rice crop for one neighbor, where a short time before when this same crop was harvested, the binders had to be pulled through the fields on sleds.

Mr. Rollins is convinced that the right motto in buying a tractor is "Quality First." What's *your* problem? Write us.

THE HOLT MFG. CO.
(Incorporated)
Los Angeles Stockton San Francisco
Both Expositions—San Francisco—San Diego

CATERPILLAR
Reg. U.S. Pat. Off.
Don't say Caterpillar unless you mean Holt!



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Write for Catalog No. 47 F
A Better Maker Not Made



For Water Deep Under The Ground

Jackson Deep Well Turbine Pumps give continuous and efficient service. They do not get out of order as they have no valves or plunger rods. Very little care or attention needed as they are oiled from the surface. Are much lower in cost than other types of deep well pumps when the expense of dug pits, cribbing and timbering is reckoned. They raise water from the very bottom of the well, thus eliminating heavy vacuums and delivering all the water the well yields. They develop slow wells and increase their flow.

Like all Jackson Made Pumps These Deep Well Turbine Pumps Are the Very Best Pumps Made for the Purpose—They are Dividend Earners, Not Expense Makers

Whatever your water problems may be our Expert Pumping Engineers will help you out free of charge—write

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OFFICE—250 North Point Street, San Francisco, Cal.—WORKS

General Agricultural Review.

CITRUS AND SEMI-TROPICAL.

A consular report gives the Seville, Spain, orange crop as a normal one.

From Jacksonville, Fla., comes the report that the grapefruit crop this season is decidedly short, while oranges are only slightly below normal.

E. M. Chase and C. G. Church of the U. S. Dept. of Agri. were in Porterville recently arranging for the establishment of the government laboratories for the testing of oranges.

The Board of Supervisors of Tulare Co. have approved the plans for the proposed Strathmore-Lindsay Irrigation District. The plans call for an expenditure of nearly two million dollars for the irrigation of over 20,000 acres of foothill orange lands.

Experiments will be carried on in the Butte county orange districts to determine the applicability of the 8 to 1 standard of maturity to fruit from that section; growers there have protested against the test, and will carry the fight to Washington.

The Comet Citrus Association of Porterville has petitioned the Superior Court to be allowed to reincorporate under the name of the Mid-California Citrus Association, stating that the latter would be more expressive throughout the East.

The Riverside Mutual Orange Company was recently incorporated at Riverside. The directors of the corporation include John L. Bishop of Highgrove; A. McDermont and G. G. Cole of Riverside; E. T. Wall of Los Angeles; and E. C. Merryfield of Colton. They have leased a packing house at Riverside for a period of ten years.

DECIDUOUS FRUITS.

It is estimated that the Ukiah valley prune crop will amount to about 450 tons.

An estimate places the Anderson prune crop at 1500 tons, or a valuation of $112,500.

An estimate places the California dried fruit crop at a valuation of $22,500,000 for 1915.

The fund subscribed by growers to finance the California Peach Growers' Company is rapidly approaching the $100,000 mark.

The Libby, McNeill & Libby cannery at Selma broke all previous records on Sept. 21, when 19 carloads of peaches were received at the plant.

On Sept. 22 the steamer Korea sailed from San Francisco for London via the Panama Canal with dried fruits and barley forming the bulk of her cargo.

The big packing house of the Rosenberg Bros. at Yuba City has commenced work for the season and will probably continue practically all the fall and well into the winter.

A material increase in the price of apricot pits is noted this year; previously the highest price paid was $25 a ton, but this year as high as $30 has been paid, due, it is said, to English buying.

A peach which is said to be better than any on the market has been grown by G. M. Williams of Fresno. It is called the Spencer Seedling and somewhat resembles the Salway variety, though Mr. Williams claims it is larger, later, and more prolific.

The Kings County Canning Company had sold out their entire pack of extra and fancy peaches a month ago—before the canning season was completed. One concern bought 18 cars of a minimum of 60,000 pounds each to be sent to Salina, Kas. Three have already been shipped; the rest have been held to await reduction in freight rates. Many who gave trial orders of two or three hundred cases last year came back this year with carload orders.

OLIVES AND NUTS.

At Arbuckle, 40,000 acres of almonds have already been planted. Five hundred acres are in bearing and about 1500 acres will be planted in 1915.

The Arbuckle-College City Almond Association recently shipped a carload of almonds to New York; the sale was made through the State Exchange and the shipment was made direct.

The Plant Introduction Gardens near Chico recently received 106 varieties of almonds from all parts of the world, which will be grown there in an effort to determine the variety best adapted to that locality.

The Los Verjels Land & Water Company of Oroville, recently purchased 1020 acres of olive lands near Bangor from the W. T. Boulware estate. The company expects to place the land under irrigation and subdivide.

R. L. Underhill, secretary of the California Ripe Olive Association, recently made a trip to Oroville and stated while there that the Association now had approximately a membership of 100 growers in northern and central California, and that the campaign south of the Tehachapi was about to be started.

Farm Adviser Parker of Ventura county reports that his assistant has lined up about 350 walnut trees on which the growers will keep records. The object of this work is to show that some trees in the orchard are "boarders," that some barely pay expenses, and that others are profitable and worthy of propagation.

GRAPES AND SMALL FRUITS.

It is estimated that California sends out 200 cars of grapes daily.

Collector of Internal Revenue J. J. Scott and Revenue Agent J. A. McCabe recently left San Francisco for a trip through the San Joaquin Valley to investigate the wine grape situation.

It is stated that practically the entire crop of 1914 raisins have been sold and that there are enough orders on hand from Europe to clean up what remains.

The California Wine Association will be made the defendant in a suit by a committee of wine grape growers for the fulfillment of contracts involving $5,000,000.

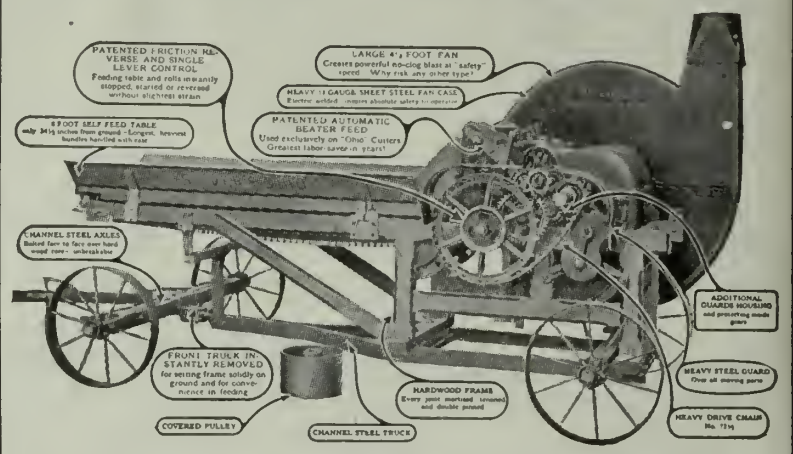
One hundred tons of Tokays are being crated and shipped East from Arbuckle. Reports on these grapes show a high sugar content, as they are grown without irrigation.

It has been announced that the Roma Wine Company of New York has made a contract with the Woodbridge Winery of San Joaquin county to purchase their entire output for the next five years.

Horticultural Commissioner Kercheval of Sacramento county states that grape standardization is responsible for the increase in price of Tokays from Florin sold on the eastern markets; Tokays are selling for 20 cents a box more this year than last.

David Bloom, a cannery man with large establishments in Australia, will affiliate with Albert F. Etter, strawberry wizard of Ettersburg, Humboldt county, to erect a cannery

The "OHIO" Monarch Silo Filler with the DIRECT DRIVE



The most complete line of Feed Cutters built today. The Ohio Cutter is the only machine with drive pulley, cutting cylinder, Fan and Fly wheel on one shaft; there is no transfer of power from knife shaft to blower.

The machine here illustrated is made in five sizes—12, 15, 17, 19 and 22 inch throat, making it the largest capacity and most powerful feed cutter made.

A regular Base can be supplied if so desired.

Send for 1915 Catalog and Poster to

THE JOHN DEERE PLOW CO. OF SAN FRANCISCO.

Bean Bags, BeanSheets, Irrigation Hose, Twine, Tents, Hay Stack Covers, Wagon Covers—Canvas, Desert Brand Water Bags. Milk and Butter Coolers.

Write for Catalog and Discounts.

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BURR CLOVER SEED AND MELILOTUS SEED

Free from Weed Seeds.
Either HULLED or in the BURR.

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5th and Poplar Streets, Oakland, Cal.

California Garden Flowers $1.50 Postpaid Pacific Rural Press

THE YUBA BALL TREAD TRACTOR

is equally efficient in the rice fields, on the side of a hill, or in the sand. The Catalogue tells why. Send for it.

The Yuba Construction Co.
Department A-9,
433 California Street, San Francisco, Cal.

at Ettersburg to can the Etter strawberry. Mr. Etter is now working on a road project to facilitate the industry.

The Kings County Canning Company canned 500 cases of grapes last year, most of which were used as samples. This year they canned one carload of Muscats and two of Thompsons, including about 3000 cases. They turned down one order of 1000 cases because it came too late. The grapes must be rather tart for canning; and they compete with the Phillip peaches if they come too late.

GRAIN AND FIELD CROPS.

A Rice Carnival is to be held in Marysville, Oct. 25.

An estimate places the Chico hop crop at 6000 bales this season.

The Oregon Hop Growers' Association estimates the yield in Oregon this year at 80,000 bales.

Fifteen hundred acres of barley on the L. Bemmerly ranch near Yolo averaged over 20 sacks per acre.

G. P. Hatcher of Yolo cut 100 tons of hay from 10 acres of alfalfa; and if the weather permits, another crop will be cut.

The Hop Growers' Association of California have under consideration the plan of establishing an office at Sacramento.

Growers of Yuba and Sutter counties are now preparing to harvest one of the largest bean crops ever produced in those sections.

It is stated that growers in the Hallwood irrigated district of Yuba county will start cutting rice about Oct. 3 to 5 and expect a record crop.

Beans are proving to be especially adapted to the overflow section near College City. H. V. Traynham has in this year over 100 acres. Threshing began on Sept. 20.

The V. A. Peterson Alfalfa Seed Co. of Arbuckle has 220 tons of clean alfalfa seed which they have begun threshing in southern Colusa and northern Yolo counties.

At a meeting of growers, shippers, and millers in conference with farm advisers at Stockton recently, the plan of handling grain in bulk instead of in sacks was discussed.

S. H. McCurry of Washington, D. C. and W. R. Weir of the University of California have been in Butte county looking into the question of drainage of the rice territory.

According to an announcement made by District Freight and Passenger Agent R. J. Smith, material reductions in the rates heretofore charged by the Southern Pacific Company for rice, alfalfa meal, and beans, have been made.

The threshing of beans has commenced on some of the ranches at Goleta, Santa Barbara county; although the crop is not up to normal, the quality is reported to be exceptionally good. Growers have started a movement to market the 1915 crop.

At the recent potato growers meeting held at Stockton it was decided to hold another one soon at San Francisco, at which owners of potato lands will be urged to be present. Potato growing has reached a critical stage in the delta section through diseases which have developed, which, with the aid of government experts and co-operation of land owners, it is hoped to overcome.

MISCELLANEOUS.

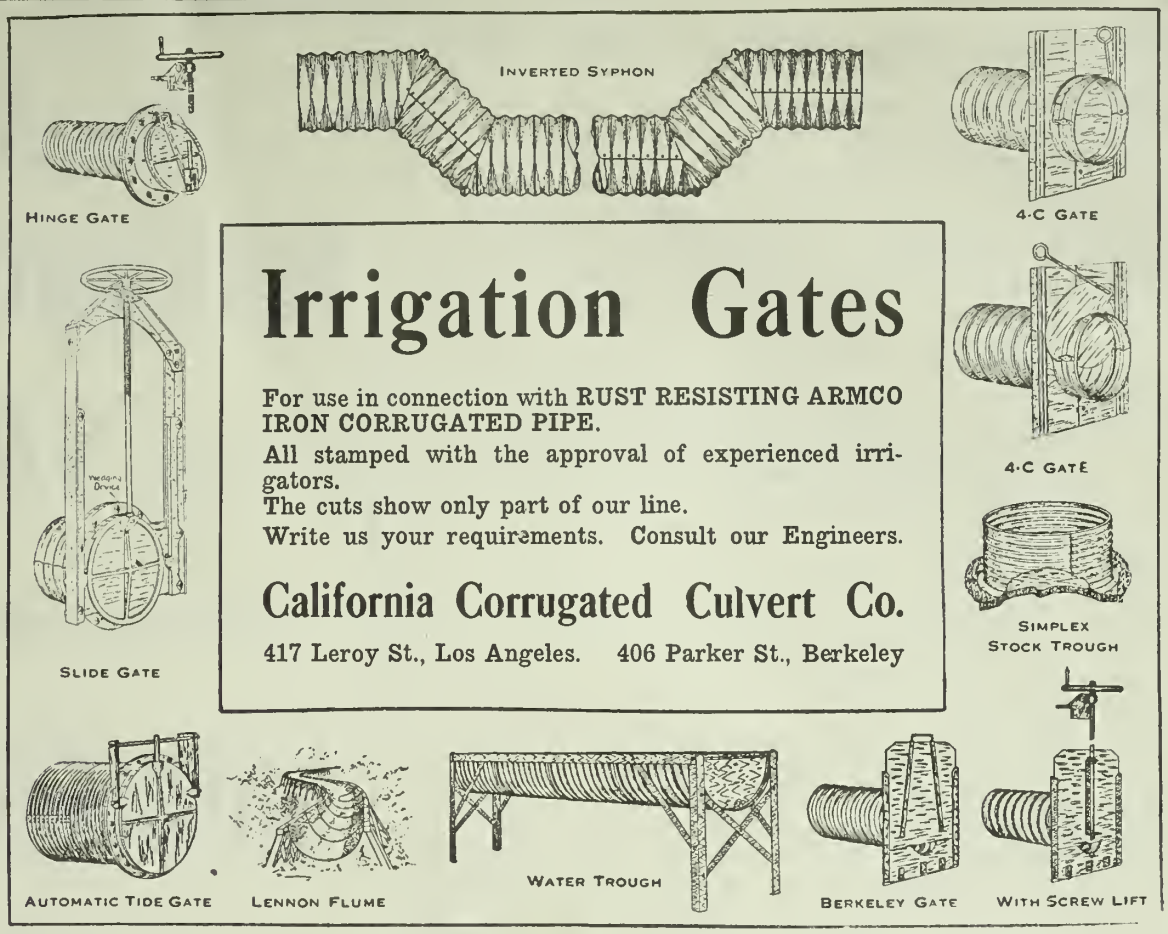
A Farm Bureau Unit will be organized at Blacks, Yolo county, soon.

An agitation has been started for the appointment of a farm adviser for Merced county.

One hundred and nineteen thousand acres of land, some of it adapted to farm and stock raising, have been opened in south central Oregon for settlement.

Prof. Clothier of the U. S. Dept. Agri. is in Woodland to determine whether the government shall make a general survey of Yolo county.

The Luther Burbank Company of San Francisco, sole distributors of Burbank creations, have made several changes in their management. They have secured the services of W. F. Pitts, formerly of Chicago and New York, as general manager succeeding Rolla Hough. Mr. Pitts has an extensive business acquaintance and is well and favorably known throughout the United States. Chas. A. Chambers, formerly Secretary-Treasurer of the Fresno Nursery Co., will fill the important position of manager of their nursery department. Mr. Chambers has had 25 years' experience in growing and selling nursery stock; and is considered one of the best posted men in the West on varieties, soil requirements, etc. W. D. Fraser, who has been with this company for some time, will remain manager of the seed, bulb and plant department.





Won Highest Exposition Honors

Highest in lubricating efficiency—highest among the many oils competing—a triumph for lubricating oil made from asphalt-base crude.

ZEROLENE
the Standard Oil for Motor Cars

The Jury of Awards at San Francisco and San Diego awarded Zerolene the gold medal in recognition of its superiority.

STANDARD OIL COMPANY
(California)
San Francisco

P. P. I. E. LIVE STOCK PROGRAM

This week saw the Exposition's livestock show ushered in. From the following program of each day's happenings, it will surely keep the farmer and stockman busy from now on till the middle of November viewing his most favored breeds and keeping his ears wide open at the various conventions.

The program by date follows:

Mon., Oct. 4. Judging Shires, Jacks and Jennets, and Mules. Amer. Shire Horse Ass'n. meeting.

Sat., Oct. 16. Cal. Conference of Boys' and Girls' Agricultural Clubs.

Mon., Oct. 18. Judging Shorthorns, Red Polled, Brown Swiss, and French Canadians.

Tues., Oct. 19. Judging Herefords, Jerseys, Shorthorns (concluded), and Red Polled (concluded). Red Polled Cattle Club of America meeting.

Wed., Oct. 20. Judging Aberdeen Angus, Dutch Belted, Herefords (concluded), and Jerseys (concluded). Ayrshire Breeders' Ass'n. meeting.

Thurs., Oct. 21. Judging Galloways, Guernseys, Aberdeen Angus (concluded), and Dutch Belted (concluded). Amer. Galloway Breeders' Ass'n. meeting.

Fri., Oct. 22. Judging Polled Durhams, Devons, Galloways (concluded), and Guernseys (concluded). Amer. Shorthorn Breeders' Convention.

Sat., Oct. 23. Judging Holstein-Friesians, Dairy Shorthorns, and Kerry and Dexters.

Mon., Oct. 25. Judging Ayrshires, Simmenthals, Holstein-Friesians (concluded), and Dairy Shorthorns (concluded). Amer. Aberdeen Angus Ass'n. meeting in forenoon.

Tues., Oct. 26. Judging purebred steers and spayed or Martin heifers, grade and cross bred steers, and champion steers by ages. Polled Durham Breeders' Ass'n. meeting.

Thurs., Oct. 28-30. Cal. Creamery Operators' Ass'n. meeting.

Tues., Nov. 2 Berkshire Congress.

Wed., Nov. 3 Judging Shropshires, Leicesters, Rambouillet B., and Persian Fat Tails. Judging Poland-Chinas, Chester Whites or O. I. C., Tamworths, Large English Blacks, and Victorias. Poland-China Get-Together Day. Amer. Milch Goat Record Ass'n. meeting in the afternoon. Berkshire Congress.

Thurs., Nov. 4. Judging Leicesters (concluded), Hampshires, Rambouillet B (concluded), and Shropshires (concluded). Judging Berkshires, Poland-Chinas (concluded), Chester Whites or O. I. C. (concluded), and Tamworths (concluded). National Swine Growers' Ass'n. meeting. Romney Sheep Breeders' Ass'n. meeting in the evening.

Fri., Nov. 5. Judging Cotswolds, Exmoors, Rambouillet C., and Hampshires (concluded). Judging Duroc-Jerseys, Hampshires, Yorkshires, Cheshires, and Berkshires (concluded). Continental Dorset Club meeting. Amer. Rambouillet Sheep Breeders' Ass'n. meeting. Chester White Swine Record Ass'n. meeting in the evening.

Sat., Nov. 6. Judging Southdowns, Dorsets, Karakule, Cotswolds (concluded), and Rambouillet C. (concluded). Judging Mule-Foots, Essex, Duroc-Jerseys (concluded), and Yorkshires (concluded). Amer. Southdown Breeders' Ass'n. meeting in the forenoon. Amer. Hampshire Swine Record Ass'n. meeting in the afternoon.

Mon., Nov. 8. Judging Southdowns (concluded), Dorsets (concluded), Merino B., and Cheviots. Judging Fat Swine, purebreds, and Fat Swine, grades and crossbreds. Amer. Oxford Down Record Ass'n. meeting. Amer. Hampshire Sheep Ass'n. meeting.

Tues., Nov. 9. Judging Lincolns, Tunis, Merino B. (concluded), and Cheviots (concluded). Amer. Angora Goat & Mohair Day. Amer. Angora Goat Breeders' Ass'n. meeting in forenoon. Duroc-Jersey Swine Breeders' Convention, afternoon. Amer. Cheviot Sheep Society meeting in the evening.

Wed., Nov. 10. Judging Romneys, Merino C., Tunis (concluded), and Lincoln (concluded). O. I. C. Swine Breeders' Ass'n. meeting in the forenoon. Amer. Tamworth Swine Record Ass'n. meeting in the afternoon.

Thurs., Nov. 11. Judging Merino C. (concluded), Angora Goats, Milch Goats, Fat Sheep, purebred, and Fat Sheep, grades and cross-breds. National Mohair Growers' Ass'n. meeting in the afternoon. Amer. Shropshire Registry Ass'n. meeting in the evening at 7 p. m.

Fri., Nov. 12. Judging Angoras (concluded), Milch Goats (concluded), Fat Sheep, purebred (concluded), and Fat Sheep grade and cross-breds (concluded).

Other Feeds Help Alfalfa to Make Pork.

The important question of whether it is profitable to feed other feeds with alfalfa is tested in interesting experiments in Imperial Valley.

[Written for Pacific Rural Press by R. B. Peters of Peters & Lamson of Holtville.]

Men from the corn belt who start hog raising in the southwest meet conditions so different from those to which they are accustomed that they are considerably baffled at the start. Not a few start enthusiastically and end sadly.

The success of the few and the failure of the many is chiefly due to the use or abuse of one of the three most valuable of hog feeds, namely, alfalfa. We discovered this soon after we began hog raising in Imperial valley, a couple of years ago.

Too many people have been led to believe that the hog will grow and thrive on alfalfa alone, this belief being based on too trusting a faith in glowing real estate advertisements. When the grower finds that his hogs are not doing well, he blames the climate, or the hog, or the alfalfa, but the trouble is nothing but his own ignorance.

The writer, like many others, was enthused over the value of alfalfa, but found disappointments at weaning time and in the rate of growth afterward. After a fruitless search of California and other literature covering experiments with hogs which are on green feed practically all the year, we decided to start out ourselves to find a ration that would give both rapid and economical gains.

If a hog runs loose and has alfalfa only, at a year of age he will weigh from 75 to 150 pounds, likely nearer the first than the last. He is not good to look upon, but has made a very economical growth and will finish fast and cheap on grain. This grass growth may be produced at from $2.00 to $4.00 per hundred pounds of pork, depending upon how valuable the alfalfa is and the number that starve. It may be a cheap gain, but it is a very unsatisfactory one and few who follow it stay long in the hog business, due to the number of hogs that are stunted and the long wait for the hog to grow.

In the corn belt in a dry lot, it takes from 500 pounds of grain up, to make 100 pounds of pork, and generally up. If tankage is used; the amount of feed will run from 400 to 500 pounds.

Then the question is, how much barley or milo does it take to make a hog in California, along with alfalfa, and how much can we get for the grain, via the hog.

Our feeding tests on our ranch have shown us that if wheat, barley, or milo be fed with a proper amount of tankage, they are so near the value of corn that it is next to impossible to tell the difference in the finish of the animal; and also that by feeding all the cut green alfalfa they will eat, the amount of grain used per hundred pounds of gain, is decidedly less than in the corn belt where green feed can not be had a large part of the year.

We used soaked barley, ground milo, and milo in the head. We find that if two to three pounds of grain per hundred pounds of pig be fed daily, the gain of the pigs will be from .4 to .7 pounds per day, increasing of course as the pig reaches six months; this means the use of from 300 to 500 pounds grain per 100 pounds gain, the amount being governed by physical conditions and the kind of care the animals have. This is a fair rate of growth and with good stock will finish thrifty looking hogs around eight or nine months, weighing 175 to 200 pounds, and will bring around the top of the market. With grain at $1.25 this would have a feed cost of about $5.00 per hundred pounds of pork, plus pasture.

Now when we add ten per cent tankage, then we start in to get the growth we ought to get. We then use only from 200 to 350 pounds of feed per 100 pounds gain. This is, as stated above, in addition to all the alfalfa pasture, or if in dry lot, all the cut green alfalfa they will eat. We get better results also by feeding twice a day, and we water four times a day. With this ration, we get one pound per day gain in a pig, this gain constantly increasing till we finish him around 200 pounds at six months, a hog that will top the market and a beauty to see.

This hog with proper attention and plenty of green feed, may be produced on an average of 270 pounds grain and 30 pounds tankage, per 100 pounds gain. If the grain is worth $1.25 and the tankage $3.00, this makes a gain at a cost of $4.27 per hundred weight, not counting labor nor green feed.

Hogs on pasture with the above amounts of grain, do not eat large quantities of alfalfa, but it is highly valuable as a conditioner, aid to digestion, and decidedly reduces the amount of grain. I do not believe the green feed need be figured over $1.00 per hundred pounds of gain in weight of pig. Hogs so raised, if pure bred, or uniform cross bred stock, should be worth about $8.00 per hundred in the southwest. This means that the man with properly bred hogs fed green alfalfa and barley or milo, may realize near $2.00 per hundred on grain raised on the place and marketed this way.

The amount of tankage may be reduced with abundance of green feed, but never eliminated. To successfully raise hogs, a highly concentrated protein feed is necessary. Growers having plenty of milk can use it partly or entirely as substitute for tankage and for pigs that are to be rushed to the butcher, but on breeding stock the possibilities of tuberculosis in the milk are dangerous, and also in pigs that are not rushed, the meat may be affected and condemned in the packing house. Of course this does not apply to pasteurized milk or tubercular free herds.

We firmly believe that a feeding system as outlined above, joined with the superior climatic conditions of the southwest, enables us to raise hogs both cheaper and better than can be done in the corn belt. A barley fed hog has few equals and no superiors. The value of alfalfa pasture for carrying over brood sows is important also.

The attached table shows some

The American Berkshire Congress SALE

Exposition Grounds, San Francisco

Saturday, Nov. 6

at 1 o'clock p. m.

The leading PRIZE-WINNING BERKSHIRES at the Exposition, will be offered at auction without reserve.

Among the Contributors will be the following well known breeders:

A. M. Alexander, Suisun, Cal.
A. H. Brinton, Woodland, Cal.
W. M. Carruthers, San Francisco, Cal.
Stephen S. Day, Sacramento, Cal.
Farmers' Farm, Farmington, Minn.
F. L. Hall, Perris, Cal.
Hamilton Farms, Gladstone, N. J.
A. B. Humphrey, Mayhews, Cal.
Hood Farm, Lowell, Mass.
Iowana Farms, Davenport, Iowa.
G. A. Murphy, Perkins, Cal.
H. L. Murphy, Perkins, Cal.
Pure Gold Stock Farm, Elk Grove, Cal.
F. R. Steel, Grant's Pass, Oregon.
Chas. M. Talmadge, Newport, Wash.
Thatcher, Ennis & Williamson, Riverside.
F. W. White, Elk Grove, Cal.

AUCTIONEERS

COL. BEN A. RHOADES, Los Angeles, Cal.
COL. W. H. HORD, San Francisco, Cal.

For catalogues address

Frank S. Springer, Secretary

Springfield, Illinois.

results with three lots of pure bred Duroc-Jersey gilts on our ranch in Imperial Valley. Lot one was as fine a looking lot of pigs as could be found any place, but a little too fat for a sultry hot day. Dry days, no matter how hot, do not bother them. Three other lots were fed special feeds of local interest, so I do not give them here:

Pigs on Feeds Supplementary to Alfalfa.

Peters & Lamson, Holtville, Cal.	Lot 1, 90% Soaked Barley 10% Tankage 12 lbs. per day per lot	Lot 2, 90% Milo in Head 10% Tankage 5 lbs. per day per lot	Lot 3, Milo in Head (No Tankage) 8 lbs. per day per lot
No. days fed	44	44	44
No. pigs in lot	5	5	5
Average weight at start	58	51.6	59
Average weight at finish	99.6	78.6	80.4
Average gain per day, per pig	.95	.61	.45
Feed eaten for 100 lbs. gain (not including alfalfa)	Barley 228 lbs.	Milo 135 lbs.	Milo 330 lbs.
	Tank. 25.4 lbs.	Tank 15 lbs.	.....

All pigs in test were pure bred Duroc Jersey gilts, winter pigs, fed in dry pens fourteen by fourteen feet and given all the fresh cut green alfalfa they would eat.

Lot 1 made very satisfactory growth in every way. Lot II made economical growth but did not look quite as well as Lot I. Lot III grew too slow to look well and it will be noticed that this lot without tankage ate twice the amount of grain and made less gain than the lot with tankage. In all cases the gain was economical, and Lot II, with milo equivalent in amount to the barley, would probably have made a gain equal to lot I.

California's Opportunity for Dairymen.

[Written for Pacific Rural Press.]

THE LITTLE LEAKS IN DAIRYING.

In dairying as in most other work it is the seemingly small thing which very often causes the most trouble and this is particularly true in the matter of cream handling.

State dairy inspectors long ago learned to look for these small points around a dairy before offering their final conclusions and it was while on such an inspection that the following experience was encountered.

The inspector called at a large dairy where he was gladly met by the owner who took great pride in showing a newly whitewashed stable and milk house, both of which were well ventilated, lighted and drained. The inspector remarked that "You will certainly get a good score on your barn," and then passed into the milk house, where were found two large galvanized tanks, both having a large faucet near the bottom for emptying. The inspector looked into the first tank and saw that it was clean, then put his forefinger into the faucet. When he pulled it out it was covered with a slime that showed it had not been properly cleaned for some time.

The owner looked surprised and called his foreman, asking him why such a condition existed. The foreman replied that the tank in question was only used for skim milk which was fed to the calves and hogs. Upon a similar examination of the second tank, however, the condition was found to be equally as bad. This time the foreman had no excuse to offer and the owner was the most humiliated man imaginable. "Mr. Inspector," he said, "I am very sorry that you have found that slime and assure you I did not know my men were so careless in their work. You can depend upon it that it will never occur again while I am around."

While his barn and milk house were well taken care of, because slackness on the part of the men was easily discernible, that little dirty faucet out of sight was adding millions of bacteria to every milking, thus making it far more difficult to ship sweet cream to the creamery, for which he received more money than he could for sour cream. That small faucet had probably cost him a good many dollars each month, and would have continued to do so but for the inspector who was familiar with the hiding places of germs. Every dairyman should be his own inspector and catch these small leaks in his businesss.

WHO WILL CURE THIS HORSE?

To the Editor: I have a mare that has a habit of going backwards if I cinch her up too tight at first. She does not rear up but just goes down so quick I hardly know how she does it. She always goes back before I start to mount her. Can you tell me a cure for the habit, and are her colts likely to inherit this habit? Also when I first saddle her to go away from home, she does not want to stand while I mount, but wants to start before I get my foot in the stirrup. After I lead her a short distance she is all right. Can you tell me a cure for this habit? I am afraid if I try to make her stand, she will go backwards.

Manton. George E. Wright.

The Fair Oaks Ranch of Willits reports the sale of a registered Duroc-Jersey brood sow, Fair Oaks Fancy, sire, Cholly Francisco 51875, dam Cols Fancy 107666, to Mrs. J. A. Oaks, Willits.

You Must Not Fail

to attend the

The California Holstein Breeders' SECOND CONSIGNMENT SALE

HANFORD, OCTOBER 14-15, 1915.

175 High Class Animals 175

Tuberculin Tested

For there will be offered an unusual opportunity to secure animals of great merit. For instance:

A COW WITH A RECORD OF 29.90 LBS. AS A 4 YR. OLD.
A COW WITH A RECORD OF 24.45 LBS. AS A 3 YR. OLD.
AND A NUMBER OF OTHERS OVER 20 LBS.

Granddaughters and daughters of many of the greatest sires of the breed, including 17 daughters of COLANTHA SIR PONTIAC AAGGIE, the best bred son of COLANTHA JOHANNA LAD—daughters of ARCADY PONTIAC WAYNE HENGEVELD, 13 A. R. O. daughters—granddaughters of K. S. P. EMPEROR and others of equal note.

Daughters of a 30-lb cow; a 29.90-lb. 4-year-old; a 24.45-lb. 3-year-old; a 24.45-lb. 4-year-old; a 22.50-lb. cow and others out of high record dams.

Cows and heifers bred to many of the greatest bulls in the West!

Bulls to Head Your Herd

About 20—including a son of a 29.90-lb. cow; a son of a 28-lb. cow; a son of a cow with a yearly record of 870 lbs. butter, sired by K. S. P. Emperor; a son of a cow with a yearly record of 772 lbs.; and Sir Holland Gamp—a prize-winner wherever shown.

For Catalog write,

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Davis, California

Breeders, Importers and Exporters of Percherons, Belgians, Clydesdales, Shires, Coach and Hackneys.

We have the largest exhibit of Horses at the Panama-Pacific Exposition Horse Show of any breeder or importer in the United States.

55 Head---all Ages---all Classes

Visitors cordially invited.

Barn 2, P. P. I. E., San Francisco.

We have at all times the largest stock of horses and can sell more Genuine Horse for the money.

If you need a good stallion in your locality, let us know.

Registered Swine.

TAMWORTHS

and

Duroc-Jerseys.

We can now fill orders for Bred Sows, Boars of breeding age, Gilts 8 to 9 months old, and Weanling Pigs.
This is the largest herd of TAMWORTHS in the State. Our stock is sure to please.

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W. O. PEARSON, Prop.
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20 AYRSHIRE COWS 20

FOR SALE

Heavy Milkers. Economical Producers. Hardy as Goats. Tuberculosis Unknown. Average Milk Production 7000 lbs. Test 4%. Butter Fat 280 lbs. All Breeders. Some now heavy with calf. Bred to an Ayrshire Bull, whose dam has a 10,000 lb. milk record. Daughter of a 12,000 lb. milk cow. Ages 3 to 4 years old. Am selling to make room for younger stock.

WYNDHAM DAIRY.
Redding, Shasta Co., Cal.

HORSE OWNERS! USE



GOMBAULT'S
CAUSTIC BALSAM.

A safe, speedy and positive cure. The safest, Best BLISTER ever used. Removes all bunches from Horses. Impossible to produce scar or blemish. Send for descriptive circulars.

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HOG BOOK
Valuable to Farmers.

"W. S. Guilford of Orland is the author of 'California Hog Book,' which has the merit of being adapted to conditions in this State. The author is a practical farmer, who realizes the possibilities of the swine industry. The book is replete with valuable information for the hog raiser, given in every-day language, avoiding technical terms used by writers of similar works. Those who know Mr. Guilford have unlimited confidence in the book. The 'California Hog Book' is from the Pacific Rural Press, San Francisco, and promises to become one of the most popular stock books written for the California farmer."—Sacramento Union.

For sale at $2 per copy, postpaid.
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Built up to a high standard, not down to a low price.

THE PURCHASE PRICE of
ALL IDEAL GREEN FEED SILOS
includes acid-proof, water-proof paint for the inside.

A ladder independent of the doors.

¾-inch hoops instead of ½-inch near the bottom where the pressure is greatest.

A 3-ply circular plate at the top to keep the silo round.

A continuous door front from top to bottom fitted with the IDEAL Patented Refrigerator Type Door, thus insuring an air and water-tight joint.

A thoroughly practical piece of equipment.
ALPHA ENGINES, ENSILAGE CUTTERS.
Everything for the Dairy.
De Laval Dairy Supply Co.
San Francisco. Seattle.

FOR SALE
8 choice, registered tuberculin-tested
Short Horn Bulls
Aged 18 to 25 months.
Also 5 aged 8 to 13 months.
H. L. MURPHY,
Perkins, California

W. H. HORD
Live Stock Auctioneer
Sales conducted in all parts of the State. Twenty-six years' experience. Write for terms. LINDEN STOCK FARM — Horses, Mules Shropshire Sheep. Berkshire Hogs for sale. 704 Market St., San Francisco.

REGISTERED
Poland Chinas
Ten week old pigs $12.00 each.
LLEWELLYN RANCH,
R. J. Miller, Mgr.
Lathrop, Calif.

With the Live Stock Men.

DAIRYING.

D. J. Altamont of Esparto is shipping 200 gallons of milk to Oakland daily.

Guy H. Miller of Modesto is fitting about a dozen head of Jerseys for the Panama-Pacific Exposition.

The California Creamery Operators' Association will hold their convention at San Francisco Oct. 28, 29, and 30.

The Alpine Creamery Company of Gonzales, after running short-handed for the past two months, is now operating full time.

J. J. McMahon of Modesto has sold his 523-acre ranch near Modesto to R. N. Park of Michigan, who will establish a dairy there.

Judging of Jersey Cattle at the Panama-Pacific Exposition will begin on the morning of October 19th, and be finished on October 20th.

A consular report states that cow-testing centers have been established in Canada under the direction of the Dairy and Cold-Storage Commission.

A. F. Scheidecker of Zamora, Yolo county, grows all his own heifers and often buys a few from his neighbors. Each year he has a nice bunch to sell.

Philadelphia's Glory Gertie, 14 years old, belonging to C. G. McFarland of the Willowood Jersey Farm of Tulare, finished Feb. 28 a record of 592.1 pounds.

Clausen & McCune of Zamora, Yolo county, are planning to test officially several of their registered Holsteins. At present they have 29 head registered cows and heifers.

Petaluma parties are at Arbuckle, negotiating for a location to establish a large cheese factory. They already have 250 cows of their own and will buy milk from other dairies.

Fleurette of Riverside Farm, of the Dupee herd of Santee, San Diego county, just finished a yearly test, making 13,690 pounds milk, 692.52 pounds fat, the average test being 5.06 per cent.

A 350-ton resaw silo is being erected on the D. J. Altamont ranch near Esparto. The approximate cost is between $350 and $400 complete. Egyptian corn will be used as ensilage.

The California Jersey Breeders' Association will hold its annual meeting in Congress Hall, Exposition Grounds, on the evening of October 20th. Every Jersey breeder in the United States is invited.

The N. H. Locke Co. of Lockeford are fitting for the Panama-Pacific Exposition the fastest bunch they have ever gatherd together, and their four-year-old and senior yearlings will be hard to beat.

The J. S. Gibson Co. of Williams expects to begin official test on several cows, including Aaggie Acme of Riverside, when they begin calving about the first of October. They expect to test all their purebreds.

Geo. Belloni of Grafton plans to have all his cows registered Jerseys in a few years. At present he has five registered females. He believes that Jerseys can produce butterfat more economically than any other cow.

On Sept. 15 at Florham Farms, Madison, N. J., Jos. L. Hope offered 81 head of Guernseys, which brought at auction $43,235, this being an average of $533.67. The highest price, $2500, was paid for Florham Gold Lassie, a beautiful young cow.

J. H. Harlan Company of Woodland recently shipped to Mrs. Elliott of Tulare a fully marked 19-months son of Kind Mead. Another bull was sent to T. F. Spurlock of Covelo. This firm now has 80 head of registered Holsteins. Official testing of all cows as they freshen will soon be started.

Farm Adviser Frank F. Lyons of San Joaquin county reports that at a meeting at Ripon, Sept. 16, the Ripon Farm Center Cream Pooling Association was organized, and election of directors held. Already 896 cows have been signed up by 68 dairymen.

A. A. Jenkins of Tulare, who has been in the purebred Jersey game only three years, having started with two purebred heifer calves, has recently sold out all his grades and has 53 head of registered stock, eight of which have finished authenticated records. His start in the purebred game cost him $70 worth of hay.

Tilly Alcartra is coming back the second year with another great record. The first six months she has produced 16,300 pounds of milk. At present she is giving over 80 pounds of milk daily. Mr. Morris says that from present appearances, she will break Riverside Sadie's two-year record which is still the world's record for that length of time.

W. L. Morris of Yolo bought of the butcher at Woodland, eight cows which were billed for the block. Two of those cows were entered in the Yolo Cow Testing Association and in 31 days one made 80.07 pounds butter and the other 77 pounds. They were the leading cows in the Association. No one can tell about a cow unless record is kept of the milk produced.

Frank Morris of A. W. Morris & Sons Corporation states that one reason for their great success in making large milk and butter records is in their method of feeding. Starting in with the calf, they feed to develop size and capacity. Having once developed the cow, they place such feed in the right proportion before her that she will consume large quantities of it. The average weight of a matured cow on this ranch is 1600 pounds.

H. M. Tichenor advises us that the Carnation Stock Farms will sell their entire herds of purebred and grade Holsteins which have attracted so much attention at the Exposition, at public auction Dec. 1. Included in this offering are 50 head of matured cows, 20 head of heifers, and about 10 head of bulls, all of which are registered. Also will be sold the herd bull, Dutchland Governor Sir Colantha, and 100 head of exceptionally fine grade Holstein cows.

CATTLE AND SHEEP.

Bullard Bros. of Woodland have sold 400 rams and 300 ewes this season.

J. R. Garnet of Willows sold his fall wool clip to E. H. Tryon of San Francisco for 13½ cents a pound.

G. K. King of Red Bluff recently sold 20 cars of sheep to San Francisco purchasers for market purposes.

Dr. Geo. S. Rey, County Veterinarian of Tulare, has issued a warning to the ranchers to vaccinate for blackleg at once.

Wm. Bemmerly of Madison now has a herd of Herefords numbering 100 females. The demand for purebred Herefords for the range is increasing.

The Gibson Company of Woodland, of which Dr. H. M. Elberg is manager, is planning to enter in the Portland stock sale some of their Shorthorns.

DISPERSION SALE
Registered Berkshires
at Public Auction
October 14, 1915.
At the ranch of F. C. Clark, Northeast of Willows.' :
14 Head of Brood Sows.
30 Head of Young Stock.
2 Herd Sires—Royal Masterpiece 13th, No. 181254; Brookline Master Lee 3rd, No. 161646.
Foundation stock was secured from Brookline Stock Farm, Aurora, Ill., one of the great show herds of the East.
For detailed information, Write
F. C. CLARK, Owner.
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Willows, Glenn County, Calif.
Autos meet all trains.

Hopland Shorthorns
Hopland Berkshires
All Stock Registered.
Bulls of Highest Quality.
YOUNG SOWS AND BOARS of finest Breeding and Type.
Prices on Application.
HOPLAND STOCK FARM
HOPLAND, CAL.

TEN GUERNSEY COWS
AVERAGE 947 lbs. FAT
Large and Economical production is the key to larger profits. The Guernsey Cow is a sure way to increased profit.
Shall we send literature?
Guernsey Cattle Club,
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Durocs Cholera Immuned
Durocs out of R. D.'s Beauty, U. F. Advance, and other prize-winning strains. Good individuals at right prices. Shipped to you before you buy.
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STOCKTON, CAL. P. O. Box 679
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Dealer in Registered and Pedigreed
Jacks and Jennets and Gaited Kentucky Saddle Horses
Largest importer in the United States. Stock sold under the very best possible guarantees, and with terms to suit purchasers.

Milking Machines
3 SIZES
See us at our Exhibit, Block 1, Agricultural Palace, P. P. I. E.
ARTHUR F. STEINER,
State Agent.

Sunnyside Herd
31 head of females from this famous herd will be sold at the
Breeder's Consignment Sale
at Hanford, October 14th and 15th
Some A. R. O. Cows and some choice bred heifers bred to my herd bulls, Arcady Pontiac Wayne Hengerveld, who has 13 A. R. O. daughters, and Judge Hengerveld De Kol 6th, my junior herd sire.
NO BETTER BRED SIRES IN THE STATE.
R. F. GUERIN
R. R. 3, Box 58, Visalia, Cal.

G. K. Swingle of Davis reports the demand for Shropshire bucks has been greater than the supply. At present his flock numbers 40 lambs and 310 ewes, 20 of which are registered.

The Fair Oaks Ranch of Willits reports the sale of the registered Shorthorn bull, Grand Duke 1st, sire Landseer 379318, dam Diana Duchess 5th 127039, to Dowling Bros. of Ukiah.

Huston & Company have on their Winters ranch a purebred herd of 75 Shropshire sheep which they secured from the Howard Cattle Company. They are also getting a start in registered Berkshire hogs.

G. T. Dunlap of Winters has purchased the N. E. Moore ranch in Sonoma county, consisting of 4147 acres of valuable stock range. It is said that the new owner will devote his time to raising blooded stock.

"Why sell a calf for veal when you can raise a purebred animal and get six times as much?" asks A. V. Arvedson of College City. He only has two registered Jerseys, but these he says pay him much better than several common cows.

At a recent session of the Nevada State Board of Equalization, it was decided to take lambs and kids from the tax rolls and reduce the assessed valuation of hogs, which decision means much to the stockmen of that state.

J. N. Horne is improving a 1500-acre ranch west of Arbuckle. The house, barn, and other buildings will cost about $12,000. The ranch will be stocked with Herefords. A registered bull and 20 registered heifers have already been purchased.

H. H. Gable, manager of the Diamond G. ranch of Esparto, reports that they now have 12 Hereford females, 5 males, 12 grade Herefords, also 200 head of grade Herefords on the range. The original females were secured from O. Harris & Son, Harris, Mo.

Kaupke Bros. of Woodland have recently secured a fine English buck to head their flock of 45 Hampshire ewes. W. S. A.'s No. 9790 arrived from the East Aug. 10. He was champion at the Royal Stock Show in England; since coming to this country he has twice held the championship at the Indiana State Fair.

The Agriculture and Live Stock Company of Madison, Yolo county, of which W. F. Stephens is manager, have rented to Gheflakes Bros., proprietors of the Western Yolo Cheese Company, 2500 head of sheep. New buildings are being erected by the Company on their ranch north of Esparto, especially suited for the business.

HORSES AND SWINE.

L. W. Millsap of Yolo has five registered Essex hogs. This herd is said to be the only one of its kind on the Pacific Coast.

Twenty-four colts from 30 mares is an extra good record. This was secured by H. C. Hinkly of Grafton. A Shire stallion was used.

G. W. Williams of Fairmead has some hogs "almost purebred," but not eligible for registry. He intends to replace them with registered stock.

H. D. Stokes, swine herdsman at the University Farm at Davis, states that they will show about 25 head at the Exposition, five breeds being represented.

A. F. Debrowsky of Redding is disposing of his Poland-China sows and buying Durocs. He expects to have a herd of 20 or more sows in a short time.

W. O. Pearson, of the Swineland Farm, Woodland, reports having sold 8 Tamworths to ranchers near Williams, 4 Durocs to Bullard of Woodland, and 1 to Ploker Bros., Woodland.

Frank Elston of Woodland has recently purchased five sows from Hiram Bullard of Woodland. He now has a herd of 12 Duroc-Jersey sows. Bullard is closing out all his registered hogs.

J. P. Daggs of Modesto recently sold four Duroc-Jersey sows to W.

(Continued on page 330.)

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

DAIRY CATTLE.

DISPERSION SALE OF HOLSTEIN HERD—52 Head of Registered Holstein-Friesians—26 cows of excellent blood lines of high record cows. 4 heifers, 2 year olds, bred. 10 heifers, four to fourteen months old. 6 service bulls of best families. 6 bull calves, one to ten months old. The sire of this herd is Artis Pontiac Tekstra, a grandson of King of the Pontiacs, also, a grandson of Pontiac Artis, one of the best of 116 A. R. O. daugbters of Hengerveld De Kol. Prices on application.

350 Head of Grade Holsteins—250 cows, $75 to $125. 60 heifers, two years old, $65 and up. 40 heifers, five months to one year. The cows and heifers are bred to Holstein-Friesian bulls of the best families. Miller & Lux, Inc., Dos Palos, Cal.

INCREASE QUANTITY AND IMPROVE QUALITY of your milk by using a Guernsey Sire. We can furnish choice imported or home-bred bulls from big record cows at attractive prices. Imp. Itchen May King 25174, the best living May Rose bull, heads the herd. See him and his calves at San Francisco Exposition. Come and see our Guernseys, or send for price list. Edgemoor Farm, Santee, California, Walter H. Dupee, Proprietor.

HOLSTEIN—Three-year-old bull for sale. Son of Lorena Korndyke. Dam's dam, 29 lbs. butter cow. Well marked. Calves 80% heifers. Or will trade for bull equally well bred. For further information, write J. B. Archer, Modesto, Cal.

REG. HOLSTEINS—We offer choice grandsons of King Segis, also grandsons of the world's record cow, Creamelle Vale; blood that increases the value of your herd. Write or call and see our herd. F. H. Stenzel, San Lorenzo, Cal.

TWO JERSEY BULLS—9 and 14 months old, sons of Opal of Venedera, daughter of Pearl of Venedera, California's Champion Jersey Butter Cow, and Elva of Venedera. Write for pedigrees. H. V. Traynham, College City, Cal.

FOR SALE—Four registered Guernseys. Two imported cows 6 years old. One bull calf 5 months old from one of these cows. One bull two years old—champion Minnesota State Fair at six months old. E. M. Smith, Delano, Cal., R. D.

WANTED—25 to 50 good dairy cattle, to be paid for in monthly installments, payment secured by mortgage on stock with interest on deferred payments. Box 90, Pacific Rural Press.

REGISTERED HOLSTEIN COWS and heifers bred to Colantha Sir Pontiac Aaggie for sale. Also bull calf by him from a 24-lb. cow. K W. Abbott, Milpitas, Cal.

HOLSTEIN BULLS—Pure-bred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

SUNNYBROOK RANCH, Willits, Cal.—Breeders Registered Holstein stock. Young bulls for sale sired by Ruby Gem Cavary Lad. Prices reasonable.

AYRSHIRES—For sale, fine young bulls from Imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

TWO REGISTERED HOLSTEIN BULLS out of A. R. O. dams. Sired by King Mead. Ready for service. J. H. Harlan Co., Woodland, Cal.

REG. GUERNSEY BULLS for sale. Grapewild Farm, Mayhews, Sacramento county, Cal. A. B. Humphrey, Prop., P. O. Box P.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class, thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

28 SPRINGING HOLSTEIN HEIFERS and Registered Bull. Fine milk strain. $1500 takes them. E. H. Webb, Escondido, Cal.

REGISTERED HOLSTEIN BULLS—Grandsons of King of the Pontiacs. J. W. Benoit, Route C, Box 172, Modesto, Cal.

REGISTERED HOLSTEIN BULLS—Serviceable age. From finest strains. Panama-Pacific Dairy, Sutter Creek, Cal.

JOHN LYNCH, breeder of Registered Shorthorns. Milk strain choice. Young stock or sale. Box 321, Petaluma, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

HOLSTEIN-FRIESIAN CATTLE and Berkshire Hogs. H. B. Goecken, Breeder, Goecken Heights, Livermore, Cal.

REG. JERSEYS—Herd established 1868. Young bulls from best cows. Rancb Dos Rios, R. 2, Modesto.

REGISTERED HOLSTEINS—A. W. MORRIS & SONS, Corp., Importers and Breeders, Woodland, Cal.

REGISTERED JERSEY BULLS from register of merit cows. D. F. Conant, R. 5, Modesto.

CREAM CUP HERD—Registered Holsteins Pontiac bull calves. M. Holdridge, Modesto, Cal.

WILLOWWOOD JERSEY FARM—Breeder of registered Jerseys. C. G. McFarland, R. 2, Tulare.

REGISTERED JERSEY CATTLE—Young stock for sale. W. J. Hackett, Breeder, Ceres, Cal.

PALENDALE HERD of Reg. Holsteins. Young bulls for sale. J. A. Pelanda, Salida, Cal.

SUNNYSIDE HERD—Registered Holstein cattle. R. F. Guerin, R. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma.

A. R. O. REGISTERED HOLSTEIN BULLS for sale. Millbrae Dairy, Millbrae, Cal.

BREEDERS OF REGISTERED HOLSTEIN CATTLE—McAlister & Son, Chino, Cal.

BREEDER of Registered Holstein Cattle. Ernest Otto McClure. R. 2, Modesto, Cal.

REGISTERED JERSEY BULL two years old. Gentle. O. J. Ames, Oakdale, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto.

LINWOOD FARM—Registered Holsteins and Imported Guernseys, Santa Cruz, Cal.

REGISTERED HOLSTEINS—Golden West Herd. D. & H. Bowles, Modesto.

N. H. LOCKE CO., Lockeford, Cal.—Choice young Jersey bulls for sale.

PACKWOOD FARM HERD for Holsteins. W. F. Mitchell, Visalia, Cal.

HORSES AND MULES.

REGISTERED JACKS—Range raised, guaranteed satisfactory breeders. Field Jacks a specialty. Also REGISTERED SHIRE COLTS. Will trade for young mules, horses, or land. James W. McCord, 508 Douty St., Hanford, Cal. Phone M471J.

PURE-BRED Registered Percherons—A few choice young stallions two years old; also two, three and four-year-old fillies, majority in foal, for sale. Los Altos Stock Farm, Los Altos, Cal.

REGISTERED, PEDIGREED JACKS, JENNETS and Gaited Kentucky Saddle Horses. H. B. Thornberry, Box 679, Stockton, or Box 1117, Los Angeles, Cal.

FOR SALE—8 head of heavy 3-year-old mules, part of them broken, all of them halter broken. L. G. Brownell, Clay, Cal.

REGISTERED JACK and Percheron stallion for sale. Large Big boned. Sure breeders H B Johnson, Madison, Cal.

REGISTERED SHIRES—Black Hawk Stock Farm. Importers and Breeders. Easton & Ward, Proprietors, Burlingame, Cal.

BEEF CATTLE.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Shorthorns, Villager and Avondale strain. Yearling bulls for sale.

SIMON-NEWMAN CO., Breeders of registered Herefords. Newman, Cal.

HOPLAND STOCK FARM—Registered Short-horns. Prices on application. Hopland, Cal.

HEREFORD BULLS—H. H. Gable, Diamond G. Ranch, Esparto, Cal.

SWINE.

I HAVE SOME EXTRA GOOD BOARS about one year old, now ready for service. These boars are the Big Type; strictly high class and fit to head any herd anywhere. They are large and have splendid length, depth and thickness. I also have some March pigs that are among the very choicest young boars that I bave ever owned. Visitors say they are the best they ever saw anywhere. I also have some of the best weanling boars that it has ever been my pleasure to see. They have the size, the hams, the shoulders, the strong backs, the length and depth of body, with plenty of smoothness and mellowness—in fact, they have two good ends and a good middle. All the above-mentioned young boars are sired by my great berd boar Iowa Wonder, who is a son of A Wonder, the greatest Poland China boar living or dead. Their dams are all strictly first class, either directly from the "corn belt," or from sires and dams from the "corn belt." On account of extra demand I have had for this stock, I bave no females for sale at present. Yours for the big type, Geo. A. Smith, Corcoran, Cal.

REGISTERED POLAND-CHINAS.—Large type. Sir Superbia, three times Grand Champion, 25 times first. Dams sired by Grand Champion, first prize boar Idaho. Exceptionally choice boars old enough for service. Also young stock, both sexes. Satisfaction guaranteed. Prices reasonable. A. J. Robinson, B. 4, Box 125, Modesto, Cal.

BILLIKEN HERD of pedigreed O. I. C. Swine; weaned pigs of both sexes for immediate shipment; pairs and trios mated, not akin. All from big type stock of extra heavy bone. Immunized against hog cholera, crated and shipped free. Write for descriptive circular and price list. C. B. Cunningham, Mills, Sacramento County, California.

O. I. C. SWINE—Poor health is the reason for this offer. Will sell my berd of pure-bred O. I. C. Swine at prices that will turn them quick. Pigs two to eight months old, either sex. Write me for special prices. Every hog registered. G. H. Dubois, Box 13, San Martin, Cal.

BLUE-RIBBON HERD DUROC-JERSEY HOGS—Bred Gilts a specialty. 15 bred now. 20 ready to breed. Sires and dams win all blue ribbons 1912, 1913, 1914 State fairs. 15 first, 13 seconds, 6 thirds, 7 fourths, 1 fifth. Will show 1915. For prices, write John P. Daggs, Modesto, Cal.

BERKSHIRES—Headed by Bandmaster 2nd, junior champion Iowa State Fair. My females were winners at Iowa, Wisconsin and Minnesota State Fairs. Farm at San Mateo. Address W. M. Caruthers, 218 Hearst Bldg., San Francisco.

ROSE CREST BERKSHIRES of Masterpiece and Rival's Champion Best breeding. A choice lot of Fall and Spring boars; also a few sows and gilts. F. L. Hall, Perris, Cal.

ROSS' DUROCS—90 little fellows, farrowed since first of September. Will book orders for November delivery. Foundation stock from Daggs and Johnson herds. R. J. Ross, Route B, Modesto.

LARGE YORKSHIRES—Gilts open or bred to our imported boar, winner at 1915 Canadian National and Ottawa shows. Choice Fall and Spring boars. Riverina Farm, Box 74, Route 2, Modesto, Cal.

ANYONE WISHING TO START a herd of registered Berkshires, write to Alexander and Kellogg, Suisun, Cal. Our berd is of the best breeding and cholera immune.

REGISTERED BERKSHIRE SWINE—All ages, for sale. Grapewild Farm, Mayhewa, Sacramento, Cal. A. B. Humphrey, Prop., P. O. Box P.

REGISTERED PUREBRED BERKSHIRE PIGS—(Weanlings) both sexes. Reasonable prices. Write for full inormation. J. E. Hall, Sebastopol, Cal.

REGISTERED BERKSHIRES—Fine 3 to 6 months boars by Panama Lee, Gold Medal winner at 1914 State Fair. C. E. Barrows, Los Molinos, Cal.

BLATCHFORD'S PIG MEAL weans easily and safely; no trouble; no milk. Write for free folder, "The Safety Route from Pighood to Porkage." Coulson Co., Petaluma.

DEL DAYO FARM—(Old Haggin Bottom Ranch)—Breeders of Registered Berksbires, both sexes for sale. P. O. Box, 1140 Sacramento, Cal.

POLAND-CHINAS—200 head. Fine individuals, weanlings to eight months. Satisfaction or money refunded. Geo. V. Beckman, Lodi.

REGISTERED DUROC-JERSEYS from choice Eastern sows. Two Fall boars and a fine lot of Spring pigs. S. S. Southworth, Napa, Cal.

POLAND CHINAS — Young stock; either sex. Write for pedigree. Reasonable prices. Edwd. A. Hall, Watsonville, Cal.

REGISTERED BERKSHIRES—Boar pigs, $10 each. Also aged boar, son of Double Premier. Extra fine. G. G. Wenger, Route 5, Modesto.

REGISTERED BERKHIRES—Six choice bred gilts. Weanling boar pigs. $10 each. Sow pigs, $12. J. M. Bomberger, Modesto.

PLAINFIELD STOCK FARM—Registered Berkshires and Durocs. Young stock for sale, both sexes. H. M. Bullard, Woodland, Cal.

A FEW PURE-BRED Duroc Boars sired by Col Keene of University Farm, Davis. Registered Eastern stock. N. P. Williams, Dixon, Cal.

REGISTERED DUROC-JERSEYS—Blue-ribbon stock 8 gilts and one boar 9 months old. $20 each. H. E. Tong, Route 2, Modesto.

GLENVIEW POLAND-CHINAS—Baby pigs from best families for sale. From $15 up. Chas. R. Hanna. R. 3, Riverside, Cal.

IMPERIAL STOCK FARM BERKSHIRES—Quality and price guaranteed to satisfy. R. J. Merrill & Son. Morgan Hill, Cal.

LINDEN STOCK FARM—Registered Berkshires, both sexes, all ages, best of breeding. Write for prices, Linden, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford.

REGISTERED DUROCS—Choice Spring boars and gilts. Weanlings November delivery H. E. Boudler & Son, Napa.

REGISTERED DUROCS—Prize-winning stock. Weanling pigs a specialty. Yeneme Ranch, Butte City, Cal.

REGISTERED BERKSHIRE BOARS sired by State Fair winner for sale. Butte City Ranch, Butte City, Cal.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Duroc and Berkshire Swine. Weanlings for sale.

BERKSHIRES—Pedigreed Boars ready for service. Also pedigreed weanlings. C. H. Thompson, Novato, Cal.

BERKSHIRES—80 head. Blue ribbon stock. All ages. Pure Gold Stock Farm, Elk Grove.

REGISTERED POLAND-CHINA HOGS—Cholera immune. W D Trewhitt, Hanford

HOPLAND STOCK FARM—Registered Bergshires. Prices on application. Hopland, Cal.

POLAND-CHINAS—Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

FINE REGISTERED BERKSHIRE PIGS—Write or call Greenwood Ranch, R. D., Brentwood, Cal.

REGISTERED BERKSHIRES — Prize-winning stock Sunnyside Stock Farm, Perkins, Cal.

DUROC-JERSEYS—Registered boars and gilts. John Decker & Sons, Turlock.

REGISTERED POLAND-CHINA HOGS—J. W. Wakefield, Acampo.

REGISTERED DUROC-JERSEY SWINE—Las Pederas Ranch, El Cajon, Cal. M. S. Allen, Manager.

REGISTERED POLAND-CHINAS—Large and medium type. Prize-winners. W. A. Young, Lodi, Cal.

POLAND-CHINAS—Master Meddler blood. Choice weanling pigs. R. J. Turner, Trowbridge, Cal.

POLAND-CHINAS—Big type. Big litters. All ages. Both sexes. C. A. Cooley, Durham, Cal.

KNOB HILL STOCK FARM—Registered Poland-China Swine. A. M. Henry, Farmington.

DUROC-JERSEYS — Choice weanling pigs. Haden Smith, Box 403, Woodland.

DUROC BOARS of Advancer and Chief. Breeding guaranteed. E. C. Curtis, Napa.

REGISTERED DUROCS—Weanling pigs for sale. T. B. Scribner, Orland, Cal.

REGISTERED POLAND-CHINAS and Duroc Jerseys. T. H Beckman, Lodi, Cal.

POLAND-HCINAS—Prize-winnera. Money-makers. W. Bernstein, Hanford, Cal.

REAOAKS RANCH herd of registered Poland Chinas. W. J. Hanna, Gilroy.

REGISTERED BERKSHIRES—Young stock for sale. F. W. White, Elk Grove, Cal.

CHAS. GOODMAN—Breeder of bigh-class Berkshire Swine. Williams, Cal.

POLAND CHINA HOGS—Registered. R. J. Miller. Llewellyn Ranch, Lathrop.

REGISTERED POLAND-CHINAS and Duroc-Jerseys. H. F. Harrold, Orland.

REGISTERED POLAND-CHINA HOGS—J. A. Clark, R. 4, Lodi, Cal.

REGISTERED O. I. C. SWINE—C. D. CONWAY, Lakeport, Cal.

POLAND-CHINA HOGS—C. A. Stowe, Stockton, Cal.

SHEEP.

FRANK MEACHAM, Petaluma, California.—Breeder Shropshire, Babouillets, American Merinos, both sexes. Take electric car at Santa Rosa or Petaluma for Live Oak.

SHROPSHIRE LAMB BUCKS—Yearlings and two-year-old rams for sale. J. R. Bloom, Dixon, Cal.

CHAS. KIMBLE—Breeder and Importer of Bambouillets, Hanford, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers, Shropshires.

MISCELLANEOUS.

563 ACRES winter sheep pasture, 16 miles east of Sacramento. Will take payment in bred ewes. Inquire E. H. Boyles, care California Fruit Exchange, California Fruit Building, Sacramento, Cal.

30 HEAD good dairy cows for sale, or will exchange for good ewes. James G. Mee, St. Helena, Cal.

BREEDER of Registered Holsteins and Poland China Swine. E. E. Freeman, R. 5, Modesto, Cal.

Veterinary Queries and Replies.

[Answered by Dr. H. B. Wintringham, Petaluma, Cal.]

RHEUMATISM.

To the Editor: One of my big sows puts scarcely any weight on one hind foot. She holds it mostly at an angle forward and pats it up and down while standing still. When she takes a step, the foot never gets farther back than perpendicular under her. The foot is not tender nor the hock. Quarters are dry and she has the run of an alfalfa pasture.—L. D. C., Denair.

[This is rheumatism. Give her good, dry, warm quarters. Place 15 grains urotropine in her feed twice a day.]

COW HAS DISCHARGE.

To the Editor: Bought a young cow (second calf) fresh two weeks ago; had her walk to my place. On the way she became frightened, slipped, and fell. A couple of hours after placing her in my stable, I noticed a discharge; a thick matter; color and consistency like that of brains; amount about a pint. Since then the discharge is less, but frequent, about a small spoonful at a time. Appetite good and cow appears well and is in good condition. What is the trouble? What shall I do for her?—A Subscriber, San Leandro.

[This is Purulent Metritis and a very grave condition. Warm douches with a 1-2000 solution chinisel, 2 gallons at a time, twice a day and 1 oz. doses fluid extract echinacea every three hours is the best treatment for this case. This must be carried over a long period and the results are doubtful.]

BARLEY STRAW FOR DAIRY COWS.

To the Editor: I planted 20 acres of barley last spring with the intention of selling it, but the hot north wind blew for 2 or 3 days and made the barley turn yellow before it fully matured. The barley is considerably shrunk and I think it is not fit to sell, so I expect to feed it with my dairy cows. The barley goes about 85 lbs. to the sack. The straw is quite tender and sweet; do you think it would be profitable to cut up the straw fine and mix it with my barley (rolled) and some other concentrates? What kind of concentrates should I use? And how much? Is molasses good? And how much does it cost by the ton? I feed alfalfa hay.—Subscriber, Byron, Cal.

[Answered by Prof. F. W. Woll, University Farm, Davis, Calif.]

Barley straw has a similar feeding value as oat straw, and contains about 40 per cent digestible carbohydrates. A considerable portion of this is, however, in the form of fiber and is of doubtful value for productive purposes, but there is enough valuable digestible nutrients in it to fully justify its use for feeding farm stock. It is used as a regular part of the rations for horses and fattening cattle in European countries, being cut fine and fed wet mixed with concentrates or sliced roots. Since the correspondent is feeding alfalfa hay it will be advisable to feed the cut straw with either rolled barley or molasses. All these feeds are high in carbohydrates (starchy components) and, therefore, supplement nicely alfalfa which is high in protein (flesh-forming substances). A good method of feeding will be to wet the cut straw with molasses diluted with three to four times its weight of water and mix rolled barley with it. The latter may also be fed alone.

Molasses generally costs about $20.00 to $25.00 a ton ($6.00 to $8.00 a barrel). This may be considered a fair price at ordinary market prices for our cheapest concentrates (barley, dried beet pulp or cocoanut meal), since it compares favorably with these in feeding value.



JANE KORNDYKE OF RIVERSIDE..
Milk, 7 days, 703.00 lbs. Butter, 7 days, 31.47.
Milk, 30 days, 2870.00 lbs. Butter, 30 days, 119.00.
To be sold at the combination sale at Sacramento, October 6th and 7th.

COMBINATION SALE, OCT. 6 & 7.

A note from F. L. Morris, Woodland, says that catalogues will not be available to mail out before the sale of Holsteins, but that copies may be had two or three days before the sale at the pavilion on the Fair Grounds, Sacramento, and on the days of the sale.

In a letter from Mr. McAlister, Jr., he makes a good point for dairymen to think of when he said: "Owing to the severe financial depression, the price of Holstein cows in this State has been depressed below their normal value, and less than they have been selling for. At the coming sales there will be offered more high-grade record cows, and sons and daughters of these cows, than at any previous time anywhere in this country. At the prevailing prices these great animals may sell for less than ordinary pure-bred bulls have brought in the past. Undoubtedly the Holstein cow will sell for as high prices as ever in a very short time, as the financial depression is passed, which means that those buying now stand a chance to double their money. It should be understood that every one of the 175 animals offered at the sale will be sold at the highest bid, and absolutely no by-bidding allowed."

GRAND PRIZE

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50,000 BRANCHES AND LOCAL AGENCIES THE WORLD OVER.

Mr. Holstein Breeder:

This is our last chance to call your attention to the opportunities that await you at the MORRIS-McALISTER COMBINATION SALE at Sacramento, October 6th and 7th. The high standard of quality in the animals which we are offering in this sale means success to the breeder who secures his foundation stock here. The cows have large A. R. O. records and the heifers are from high record dams, all bred to bulls that are in the foremost ranks of the breed.

In addition to our two great herd sires—KING SEGIS PONTIAC EMPEROR and LORENA KORNDYKE, either of which will add fame and prestige to your herd, we are consigning a number of young ones just ready to use, with breeding, conformation and high-record backing, which amply qualifies them to head any herd in the world.

You are invited to be present at the sale whether you are in the market or not.

A. W. Morris & Sons Corporation

Woodland, Cal.

Hillcrest Stock Farm

THORNTON S. GLIDE, Prop., Davis, Cal.

Breeders of

Short Horn Cattle

Shropshire and Merino Sheep

ATTENTION, SHEEPMEN.

My pure-bred, range-raised yearling Shropshire and Merino rams are now out of the mountains and ready for inspection at my place.

Shropshires sired by rams imported by me from England in 1911.

Sheep Clean Irrigation Ditches.

[Written for Pacific Rural Press.]

Cleanlng irrigation ditch banks for nothing and making a profit in the transaction are accomplished by Dan Sturm and Lou Reager of the Orland project at practically no labor. Their neighbors' ditches grow up rankly to weeds, and the more enterprising of them burn off the outsides of the ditch banks, but can not burn the green weeds on the sides next to the water. Many of the ditch banks in this neighborhood are ragged, disreputable distributing points for weed seeds. The Government which put in the irrigation project recognized the damage due to the distribution of weed seeds and offered to fence one side of each irrigation ditch, if the owner would fence the other and maintain sheep on the banks.

Mr. Sturm took advantage of this and had the fence put in when the ditch was grown up "as thick as the weeds could stick last fall." He put a dozen common ewes, bought from the range at $5 apiece, onto the narrow strip between the fences on his 800 feet of ditch. They cleaned it with a vengeance, packing but not injuring the banks as heavier stock might. Half a dozen of them had lambs last October; the others had not been bred. This summer the ditches are clean of everything except turkey mullen, which the sheep do not eat, and a little fringe of growing water grass or German millet along the water's edge, which the sheep keep down, but do not exterminate. "The millet grows 18 inches a month and would be expensive cleaning out with the water in the ditch."

But the space allowed would not support so many sheep, so Mr. Sturm recently sold all of the old ones at the price paid for them; he intends to keep only the half-dozen young ones, which are sufficient, as he believes, to keep 1000 feet of ditch free of weeds. Sheep thus prevent seeding the place with weed seeds; there is no labor or expense aside from the fencing; the lambs and wool are clear profit, for the ditch banks they run on would be waste anyway, and would otherwise require considerable labor to prevent a discreditable appearance, which would reduce the value of the place and also impair the man's credit at the bank.

BULL VALUES DIFFERENT.

[Written for Pacific Rural Press.]

Many a farmer will turn off a poor cow to the butcher because she does not give enough milk, but there are few who will turn off a bull as long as he will breed, or so long as he can be used without extreme inbreeding.

There is as wide a varlation in the value of a bull as there is in cows, some are good and some are bad. Since the establishment of the official test by the various breed associations, there is not, however, so much chance in bull selection as there formerly was. Most breeders of purebred cattle are recognizing the value of the official test, and there are always opportunities for the dairyman to purchase herd sires with authenticated records back of them at a very fair figure.

Even though one takes the precaution of looking into the past records of the bull's dam, grandams, etc., there is a chance that he may not have transmitting powers. The only way to accurately decide on a bull's value is to weigh and test regularly the milk from his heifers. If they average up well, he should be kept as long as possible. If they average low, he should be sent to the butcher right away. If left in the herd, he might cost more than several boarder cows.

The slogan should be not only to weed out the poor cows for the butcher, but the poor bulls as well.

ANY BREED GOOD.

[Written for Pacific Rural Press.]

It doesn't make any difference what breed of dairy cows you keep; if you test and weigh your milk you will get good ones. That is the belief of Mr. J. Lindrinn of Humboldt county who has increased his average herd production from 226 pounds of fat to 277 pounds in the six years he has belonged to the Ferndale Cow Testing Association.

Mr. Lindrinn milks about 70 cows, the original herd being Durhams. In later years, however, he has used purebred Jersey bulls, and now he is contemplating the purchase of an Ayrshire bull as he believes them better suited to his conditions.

His method of increasing production is exactly the same as one finds on all high producing dairies, viz.: saves heifers from his best cows and weeds out herd with tester and scales. As the creamery which purchases Mr. Lindrinn's milk pays more for sweet milk than sour, he pours all of his milk over a milk cooler directly after it is drawn from the cow. There is no extra expense to this other than the small initial investment and it adds materially to the value of his milk.

On account of a severe attack of cholera, G. P. Hatcher of Yolo has stopped selling O I C breeding stock.

Poland China Pigs

LARGE AND MEDIUM TYPE

A Wonder and Giantess Stock.

Prize-Winners of either type. Several very fine young boars and a few bred sows for sale.

We guarantee to please or refund your money.

W. A. YOUNG, Lodi, Cal.

Oak Grove BERKSHIRES

CHOLERA IMMUNE

Our herd is Cholera Immune, the only immune Berkshire herd in the State.

Five herd boars in use and they are second to none on the coast. Our sows are of equal merit.

We have at present some 300 Berkshires and we know that we can supply what you want.

Write Us or Call.

OAK GROVE DAIRY FARM

H. G. ARMSTRONG, Prop.

Woodland, Cal.

BLACK LEG LOSSES SURELY PREVENTED by Cutter's Blackleg Pills. Low-priced, fresh, reliable; preferred by Western stockmen because they protect where other vaccines fail. Write for booklet and testimonials. 10-dose pkge. Blackleg Pills $1.00 50-dose pkge. Blackleg Pills 4.00 Use any injector, but Cutter's best. The superiority of Cutter products is due to over 15 years of specializing in vaccines and serums only. Insist on Cutter's. If unobtainable, order direct. THE CUTTER LABORATORY, Berkeley, California.

175 Holsteins of Quality 175

The Sacramento Sale Oct. 6 and 7 is Synonymous with Quality

In fact, never before at any public sale has there been offered as many advanced registry cows, as many great yearly record cows, as many daughters of great record cows, and as many sons of great record cows. For size, growth and conformation of offerings, the Sacramento Sale leads all others.
Most of the females are in calf to such great sires as Tilly Alcartra Son; Segis Pontiac De Kol Burke; Aralia De Kol Pontiac Segis, King Klondyke Pontiac, and King Segis De Kol Mead. This means their calves will be worth all if not more than their dams bring.

Does your farm pay?

Perhaps not as much as you would like, or perhaps even losing money. If so, it is because you have neglected to engage in the most profitable branch of the industry.

Last January a herd in New York was dispersed for $150,000, the recent owner making over a quarter of a million in a dozen years out of Holsteins alone. A start toward wealth can be made by buying at the

COMBINATION SALE, SACRAMENTO OCT. 6th & 7th

A. W. MORRIS SONS, Woodland. McALISTER SONS, Chino.

Owing to an unfortunate delay, it will be too late to mail out catalogues, but they will be distributed at the sale.

F. L. MORRIS, Woodland, JAS. A. McALISTER, JR., Chino, Sales Managers

COL. B. A. RHOADES, Los Angeles, Auctioneer

GRANDSONS OF TILLY ALCARTRA

At Prices within Reach of Every Breeder and Dairyman.



A Grandson of Tilly Alcartra.

We have several splendid grandsons of this now famous cow which we can deliver to you at prices which will suit the pocketbooks of every dairyman wishing to improve the quality of his herd, whether it be a grade or pure-bred herd. These bulls are sired by our herd bull, Prince Alcartra Korndyke and out of A. R. O. cows, and are the only living grandsons of a cow having a record of over 30,000 pounds of milk in a year. Such an opportunity for increasing production has never been offered DAIRYMEN AND BREEDERS in California, price and quality considered. Buy one of these bulls and solve your low production problem. Write

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This company is in the market for from ten to one hundred head of HIGH-GRADE TUBERCULIN TESTED HOLSTEIN COWS.
We are not desirous of corresponding with anyone who cannot furnish us strictly high grade animals.

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Whether intended for show or market, the hog attains perfect condition and more quickly and economically if his ration includes some DIGESTER TANKAGE. The growing pigs needs DIGESTER TANKAGE as a bone and muscle builder. Write for free pamphlet on hog-feeding.

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A. R. O. Cows and Heifers

Bred to PRINCE JULIANA DE KOL WALKER, will be in our offering at the California Holstein Breeders' Sale at Hanford, October 14-15. PRINCE JULIANA DE KOL WALKER is sired by PRINCE GELSCHE WALKER, whose dam is GELSCHE WALKER, 30.54 pounds butter in 7 days, and whose seven nearest dams average nearly 30 pounds butter in 7 days. His dam is JULIANA DE KOL, former world's record 2-year-old, whose sire has 8 daughters averaging 867.82 pounds butter in one year. This is the kind of Blood for Foundation Stock.

HEWITT & HEWITT, Hardwick, Kings County, Calif.

WITH THE LIVE STOCK MEN.

(Continued from page 327.)

V. Bennett of Chico; and one boar to each of the following: D. W. Scofield of Visalia, R. R. Houston of Byron, and H. H. Bromk of Merced.

"Prevention is better than cure," reasons Haden Smith of Woodland. Visitors to see his herd of Durocs are invited to rinse their shoes in a solution of sheep dip before entering the pens. This treatment kills all lurking choiera germs.

Duke's Lady Lee 13th, daughter of Baron Duke 170th, farrowed on Sept. 12 ten strong littie Berkshires. The pigs are by Symboleer's Duke, son of Symboleer 5th. The above pair was seiected by A. H. Brinton of Woodiand on his trip East last year and brought to this Coast.

The Yolo Orchard Company of Yolo kept 30 sows and 160 pigs from about the first of June until the middle of September on eight acres of alfalfa divided into six fields; and a system of irrigation and changing fields was followed. A little culi dried fruits and about 150 pounds of barley was fed during this period.

The Browning Stock Farm of Woodland, Poland-China breeders, report that they have just recently shipped 10 year-old sows to D. M. Swim of Vacaville, 1 boar pig to E. G. Watkins, Davis, 1 boar to C. Kellogg, Yuba City, a boar and sow to H. C. Wilson, Princeton. Since the middle of August, they have sold 30 head, and have 125 more to sell.

MISCELLANEOUS.

The Fifth Annual Livestock Exposition will be held at the Union Stock Yards, North Portland, Ore., Dec. 6-11.

The judges for the Panama-Pacific Exposition cattle show next month have been named and are: Thos. Dempsey, Westerville, O., will judge Jerseys; Eiiiott Davis, Lincoln, Neb., Red Polied; Calvin Ewing, Youngston, O., Gaiioways; Chas. L. Hiii, Rosendaie, Wis., Guernseys; M. A. Judy, West Lebanon, Ind., Aberdeen-Angus; Phil C. Lee, San Angelo, Tex., Herefords; Hugh Van Pelt, Waterloo, Iowa, Ayrshires; W. H. Standish, Lyons, O., Holsteins; Capt. T. E. Robson, London, Ontario. Shorthorns.

A BOOST FOR THE GUERNSEYS.

I have 60 cows in one herd that are now bringing me 50 to 55 pounds per day, and my feed has been short for the last 60 days. We have green feed the year round which makes the dairy business more of a succes. Thirty-six of these cows are Guernseys and the balance are mixed. My Guernseys test from 6 to 7½, the baiance of the cows from 3 to 5½. To my notion, the Guernseys are the best. I am running my 60 head on 80 acres and making a go of it. I have 20 six-months-old calves and 12 horses on the same piece of land. I have 70 cows on my other 80 acres; they are Durhams and Jerseys, but they are not in it with the Guernseys

Brawley. J. A. Wiest.

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to your pullets as well as your hens, commencing at the age of three months.
Write for free book "Chickens" from shell to market.
COULSON CO.
Petaluma, Cal.

Farm Poultry for Profit.

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

POULTRY ITEMS FOR CHANGEABLE WEATHER.

The scribe has been taking a vacation and seeing how other peopie do things. This is one of the best ways to get a littie practicai knowiedge of the poultry interests in this great State.

Feed Beet Pulp. — A great many pouitrymen are having a scarcity of green feed just now, and as this is the season when beet pulp is coming on the market it wiii pay to use it as a substitute. The hens will perhaps not take to it quite readiiy at first, but by serving a smaii quantity at a time they can be taught to eat it as well as anything eise. To feed it just pour water over it and let stand a few minutes, sprinkle a iittle salt over it if necessary, and serve in dishes or in troughs. Be sure to not ieave it iying around very iong or it will sour; that is the oniy thing to be afraid of, for sour feed causes bowei trouble.

Watch Roosting.—As the cold nights are approaching, it will also pay to find out if the chickens are all going to roost in the proper houses, as chickens often take a notion to sleep in trees. While they may keep healthy in trees, the chances are against them laying any amount of eggs; besides, roup very often attacks chickens that are too much exposed to contrary winds.

Good Tonic.—A little iron tonic, say half a teaspoonful of tincture of iron in a gallon of water, will brace them up against the changes in the weather and wiii help through the molt, too. This must be put in earthenware crocks or something simiiar for the hens to get the fuli benefit.

Keep the ground stirred up so that the chickens can find new mineral matter; if the ground gets hard and dry, the hens can neither scratch nor pick the little things they are always looking for.

Sprouted Grains.—I found a number of people that would have liked to feed sprouted oats and barley, but they did not have just the right idea of how to prepare them for a number of fowls. If nothing better is at hand, just soak the quantity of barley you need for one feeding. We soak it in warm water, as that starts the germ quicker and saves time. Four or six hours' soaking will do in warm water, but cold water takes longer. When it is soaked, put in gunny sacks and set out in the sun. If the sacks of bariey are sprinkled every day and then stirred by taking the two ends of the sack, one in each hand, and shaking the contents back and forth a minute, the barley will be sprouted and fit to serve in about four days. Another way is to have boxes that will hold enough barley for one day; bore holes in the bottom to allow the water to drain away, then pour the soaked bariey in the boxes. Cover over with burlap and keep sprinkled and stirred as in the gunny sacks. Oat sprouters can be used, but are not necessary in our ciimate. The thing to bear in mind is that it requires warmth to sprout grain; and another thing is that too much moisture and warmth without stirring wiii cause mold to gather on the grain, in which case it should not be fed at all. Sprouted grain of any kind is a good egg-getter.

Crowding Injurious.—Look out for crowding; if your chickens are crowded in too smaii a sieeping space they will not grow as they should, and wiii be subject to roup, colds, and many other troubles that can be avoided by giving a little more sleeping room. See that they have a good circulation of air at all times, but avoid direct drafts. Air that goes under or over without striking the chickens direct will do.

And don't forget that the fall is the best time to cull out the drones and send to market for pot pies for the peopie. Drones make very good eating, but that is all they are fit for.

Rabbits Die; Wrong Feeding.—Here is a question from a little girl that, without further information, one has to guess at. "Dear Editor: My papa says you could probabiy teii me what to do to keep my bunnies from dying. They refuse to eat, their heads swell up, and they have trouble breathing. After being sick a day or two they die.—Miidred."

Now if Mildred had toid us what she fed before the rabbits got sick it would be so much easier to diagnose the case, but the symptoms appear to me to be the effects of wrong feeding. If she has been feeding alfalfa or any kind of green feed and giving water at the same time it is safe to assume that is the cause. When green feed is served to young rabbits, water should not be given at ail; but if you feed dry hay or other dry feed, then give fresh water. All kinds of green feed contain water

HOG CHOLERA MASTERED.
The Superior Serum Co., of Kansas City, Mo., are now prepared to furnish anti-hog cholera serum from Los Angeles. All serum made and tested under U. S. Government inspection. The high potency of this serum has been shown to be perfect and the best of results have been obtained by the many hundreds who have used it. Price of serum 1½ cents per cubic centimeter. Virus free. OFFICE: 429-30 Bryson Block, 2nd and Spring, Los Angeles.. Phone Home A-1326.

LAST CALL FOR SILOS
FOR THIS SEASON'S USE
We will ship you a Remco Redwood Stave Silo, best Silo made—in 4 days—so you can silo this Fall's corn crop. Every day counts now. If you have feed that you will turn into silage accept this last call and get your Remco. If you don't you lose a whole season's benefits.
You use Tanks and Pipe all year round. Let us quote your prices on our Remco Redwood Tanks in all sizes and our Remco Redwood Stave Pipe in all diameters, 2 inches to 12 feet.
Tell us your requirements and we will quote you prices. Our factory is equipped for special orders as well as standard requirements.
If you come to San Francisco for any purpose, come also to see us.
Redwood Manufacturers Co.
1613 Hobart Bldg., San Francisco, Cal.



San Ramon Shropshires
OUR FLOCK HEADERS ARE:
Cavendish 273
Cavendish 272
Cavendish 246
OUR 1914 WINNINGS:
All Firsts and Championships at Sacramento State Fair, Fresno Fair, Hanford Fair, and Pleasanton Fair.
PUREBRED REGISTERED RAMS and EWES
Individuals or Carload Lots
Frank Rutherford, Supt. Ted Ballard, Shepherd.
BISHOP BROS., Agents. SAN RAMON
Contra Costa Co., California.

Cotton Seed Meal and Cake
FROM COTTON SEED GROWN IN THE IMPERIAL VALLEY, CAL.
BEST AND CHEAPEST SOURCE OF PROTEIN.
Adds weight to Cattle. Increases flow of milk.
Balfour, Guthrie & Co., Sales Agents.
San Francisco, Los Angeles, Cal. Portland, Ore.
Seattle, Tacoma, Wash. Vancouver, B. C.

enough to answer the needs of young rabbits.

Correction.—A local land company has written me that my statement that they claimed to have made $14,000.00 in one year from an acre of poultry land was incorrect and that the claim should have read $4000.00; and they say they have seen the books to prove it. However, four thousand dollars can't be made on every acre of poultry; and if any one has made that amount, it was by selling other than commercial poultry and eggs.

GALLANTRY OF THE GUINEA COCK.

To the Editor: Please state in your paper how we can tell the male from the female guinea fowl, at any age—say one year old. They look so much alike; nobody seems to be able to tell which is which.—H. L. H., Coachella.

[C. S. Valentine, author of "The Beginner in Poultry," says: "Males are distinguished from females chiefly by their cry. The males are slightly larger than the females; the voice is more strident, and where the young are being fed, the male's careful auxiliary protection of the female and her little ones distinguishes him. One may make unnumbered efforts to head off the male from his family, but he always will appear between his charges and the threatening peril, to insure protection."]

POULTRY NOTES.

At the Livermore Show Oct. 9, provision will be made for displaying utility stock grown by the various poultrymen of the valley with probably a few pens by famous breeders of utility stock with a view of showing the highest standards in their respective lines. Jas. Kepple, a utility expert of Petaluma, will judge the utility pens.

As a result of the series of illustrated articles that at the request of the Federated Poultry Ass'n of California were published during the winter of 1914-15 in the Pacific Rural Press, regarding the proper care of eggs by the producers and handlers, the average quality of the eggs now in cold storage is much superior to that of any previous year. When this becomes generally known to the mass of consumers, it is anticipated that a greater demand for storage eggs will continue through the winter; and because of this uninterrupted use of eggs as an article of food throughout the entire year, it will also stimulate an increased demand for extra quality fresh eggs. Although reports from the entire country show that never before were there so many eggs placed in cold storage, the owners are not showing any uneasiness, but all seem to anticipate the prophesied increased demand at prices that will yield fair returns.

E. N. Donaldson, formerly of Petaluma, has returned to California after an absence of eighteen years in Alaska. Mr. Donaldson's former location was at Corona and some of the "old-timers" in that district will no doubt recall that as a breeder of turkeys, geese, and pigeons, as well as fine horses, his stock could not be excelled. In all of our experience he is the most expert all round handler of animals we have met; they seem to just naturally accept him as a friend and respect and obey him at once. Mr. Donaldson is looking for a location in this State and any neighborhood that is extensively interested in breeding fine animals will be fortunate if he can be induced to "drive his new stakes" there.



Harness is like a leather boot—if you don't keep it oiled, it rots. Moisture that works into the pores of your harness robs tugs, straps and breechings of the strength they need to give you good long service.

EUREKA HARNESS OIL

keeps the pores of the leather filled with highly waterproof oils—keeps your harness soft, pliable, strong. Have your harness man dip your harness occasionally, or apply it yourself by hand. Harness costs money. It doesn't pay to neglect it.

Standard Oil Company
(California)

SLOBBERING RABBITS.

To the Editor: I have a bunch of 26 rabbits in one pen; within two days they were all attacked with the slobbers. I lost eight and some more are going to die. I feed them greens once a day and dry feed once a day, but the green feed is selected. I cannot discover the cause. Please let me know what I can do for them. I have been raising rabbits for quite a little while and never had any trouble like this before.—M. Bros., Bay Farm Island, Alameda.

[Answered by Geo. H. Croley, San Francisco.]

[Slobbers or snuffles in rabbits is a difficult disease to cure, but it may be prevented from spreading if given prompt attention. It sometimes attacks a lot of rabbits that are properly fed and cared for in the best manner possible, but it is usually due to damp or drafty quarters and first appears in the form of pneumonia. We have heard it stated that it is due to lack of salt; rabbits should be salted at least once a week. A level teaspoonful of salt mixed with a pint of dry bran; the mixture should then be moistened with water until it is thoroughly damp but not sloppy. A number of years ago C. W. Hansen, the well-known fancier of San Mateo, had much trouble with sickness among his Belgian hares. He stated to us that after making it a daily practice to give them a few poplar tree suckers, he never again had a sick hare. These suckers grew abundantly about the base of the tall poplars; they should be fed fresh, including the leaves.

Our correspondent should quickly separate the sick animals from those that show no symptoms of the disease. Clean out and whitewash inside, and outside also if possible, all the hutches on the place, using a strong solution of carbolic acid in the whitewash. Thoroughly wash all drinking vessels and feed troughs with a solution of 20 drops of carbolic acid in one gallon of water. Also give in the drinking water of those that are infected ten drops of five per cent carbolic acid solution

Poultry Breeders Directory

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

BABY CHICKS—Orders booked now for immediate or Spring delivery. Get our vigorous little chicks and be assured of a plentiful supply of eggs next Spring. Our breeds—White and Brown Legborns; Black Minorcas; Rhode Island Reds; Barred Rocks. Write for circular. We also breed Flemish Giant Rabbits, "the real Giants." Campbell Poultry Ranch, Campbell, Cal.

WHITE PLUMAGE POULTRY FARM and Hatchery. Sells Fall and Winter chicks. White Leghorns. Barred Rocks and Rhode Island Reds. Circular free. H. A. Schlotthauer, Exeter, Cal.

BARRED PLYMOUTH ROCKS—"The kind that Win and Lay." Choice stock for sale. Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

THE SANTA CLARA VALLEY HATCHERY can fill orders for 8 varieties of baby chicks and ducklings. J. A. Bihn, R. 6, San Jose, Cal.

CROLEY'S EVERLAY EGG MASH AND CROLEY'S SCRATCH FEED form a perfect balanced ration. Ask your dealer for them.

TRAPNESTED LEGHORNS — White and Buff Stock. Eggs, chickens. Arthur R. Schroeder, Box 179E, Mountain View, Cal.

POSITION WANTED by experienced poultryman. Correspondence solicited. J. H. Severance, care Pacific Rural Press.

ORPINGTONS, BUFF AND WHITE, Black Minorcas and Carneux pigeons. Mrs. Susan Swaysgood, Pomona, Cal.

SILVER-SPANGLED HAMBURG COCKERELS for sale. Ready for mating. Tribble Nurseries, Elk Grove, Cal.

HARES AND RABBITS.

LEADING RABBITRY IN AMERICA—Flemish Giants and New Zealands. Cut your living expenses. Catalogue free. Empire Rabbitry, Empire, Cal.

BOSWORTH'S Imperial Red New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville, Cal.

BELGIAN HARES—Young stock for sale. Hurd Bros. St. Helena, Cal.

TURKEYS, DUCKS AND GEESE.

HART'S BRONZE TURKEYS—Limited number of last season's breeders for sale at reduced prices. Albert M. Hart, Clements, Cal. (Successor to Ed Hart.)

CHICKENS, DUCKS, GEESE, GUINEAS, PEA FOWL. Address Wm. A. French, 545 W. Park St., Stockton, Cal.

PIGEONS.

WHILE THEY LAST for $3 per dozen. Plymouth Rock Homer Pigeons. Very fine. Geo. M. Bosworth, Geyserville, Cal.

Classified Advertisements.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

WANTED.

WANTED—About seventy-five young men and women to enter the WESTERN NORMAL on August 30th, to prepare for teaching. Western Normal graduates secure and hold good positions. We assist graduates to secure good positions and promotion. We save you time and money. For information address, WESTERN NORMAL, J. R. HUMPHREYS, Principal, Stockton, Cal., Box 704.

PARTNER WANTED—Owner of 800 acres sub-irrigated bottom land desires to join party furnishing the cows for operating a dairy on shares. For particulars, apply Box 989, Pacific Rural Press.

YOUNG MAN WISHES POSITION in Orchard. Understands spraying, pruning and general farm work. Good recommendation. Any further information, write Box 710, this office.

MISCELANEOUS.

APPLES—Buy direct from the producer. Belleflowers now ready. Bulk pack, 4 and 4½ tiers. Graded to Fancy, 70c per box F. O. B. Watsonville. Satisfaction guaranteed. Try a box or two. You will recommend them to your friends. Edward A. Hall, Watsonville, Cal.

SECOND HAND WATER PIPE and screw casing. New threads and couplings dipped in bot asphaltum. All guaranteed. Send us your inquiry. SHECTER PIPE WORKS, 306-8 Howard St., San Francisco.

BLACKSMITH'S SHOP COMPLETE—3 room house and screen porch. Two and a half-acre lot. Fine pumping plant. Good business. For sale reasonable. James Lockie, Chowchilla, Cal.

EXPERIENCED RANCH SUPERINTENDENT wants position—Fruit, grain, irrigation, farming and subdivision projects. Alfalfa and stock. Salary or percentage. Box 800, Rural Press.

LIVING EXPENSES REDUCED THROUGH CO-OPERATIVE BUYING—Write for catalogue and particulars. Pacific Co-operative League, D236 Commercial St., S. F.

"SMITHS' PAYS THE FREIGHT."—To reduce the high cost of living, send for our Wholesale to Consumer Catalog. SMITHS' CASH STORE, 106 Clay St., San Francisco.

FOR SALE—Steam Traction Well Drill. Good for 1000 feet. Write for description and terms. Box 561, Dixon, Cal.

TRACTOR PLOWING by time or contract. Special plow for hard ground. J. W. Seitz, Mountain View, Cal.

BEES.

INSTRUCTION BOOKS and prices, bees, supplies, etc., free. Spencer Apiaries, Ventura, Cal.

LAND FOR SALE.

14 1/6 ACRES FOR SALE—14½ AT A SACRIFICE—$15,000—GENTLEMAN'S COUNTRY HOME.—One of the best paying, highly improved orchards in Santa Clara Valley. Situated southwest corner Steven's Creek road and Cypress avenue. Four miles west of San Jose, on Palo Alto and Saratoga trolley. Beautiful house, garden, ornamental shade trees; fine stable; garage; fruit house; tank house; electric motor. Extensive modern poultry plant. Complete drying equipment. Scientifically developed orchard. Big regular producer. ½ prunes; ½ apricots. Family orchard. Record crops every year. Ideal money-making country home. Business interests call the owner elsewhere. This ranch has been appraised at and is worth $20,000. Mortgage of $10,000 can remain; three years. L. L. Norton, owner, 530 Phelan Bldg., San Francisco.

CALIFORNIA LAND—Money-making little farms, high class, low priced properties in all counties. Call or write the oldest land office in California; we will save you 25 to 50 per cent. C. M. WOOSTER CO., 303 Phelan Building, S. F. Catalogue free.

FARMS WANTED—We have direct buyers. Don't pay commissions. Write describing property, naming lowest price. We help buyers locate desirable property Free. American Investment Association, 93 Palace Bldg., Minneapolis, Minn

RANGE LAND—Cattle men desiring to buy a first-class range in the western hills of Sacramento Valley, capable of running 1000 head or more, would do well to communicate with OWNERS, care Pacific Rural Press.

WANTED to hear from owner of good farm for sale along the line of the Northwestern railroad. Must be some tillable land, alfalfa, if possible. Write to R. D. Sturtevant, Gonzales, Cal.

FOR SALE—10 acres improved. Cow, chickens and furniture. Pumping plant. Write for particulars. Box 561, Dixon, Cal.

WANTED to hear from woner of good farm for sale. Send cash price and description. D. F. Bush, Minneapolis, Minn.

FOR RENT—300 acres of alfalfa land. Apply to J. H. Glide, care West Sacramento Co., Sacramento, Cal.

TREES AND NURSERY STOCK.

WALNUT TREES—Eureka and El Monte varieties a specialty; also Franquette and Placentia. Write for prices and description of stock. Personal inspection invited. Eureka Walnut Nursery, Montebello, Cal.

TREES — LATE VALENCIAS — NAVELS — GRAPE FRUIT—Positively finest grown. Fall planting. 12½c in the tree row. Phone Whittier Line 5544. Brunson Nursery Co., Santa Fe Springs, Cal.

RECLEANED ALFALFA SEED, excellent color, very high germination, first-class quality, 19c per pound, F. O. B. your railroad station. Send for sample. E. F. Sanguinetti, Yuma, Ariz.

STRAWBERRY PLANTS—Layer plants now ready. 55 varieties, including the FALL BEARING Asparagus Roots, etc. Catalog free. J. Kelfford Hall, Route 5, Rhodesdale, Md.

BURBANK'S SPINELESS CACTUS—Hardiest varieties. Melrose and Special. Strong mature slabs, $8.50 per 100; $50 per 1000. Labranza Ranch, Athlone, Merced Co., Cal.

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FIRE AND ROT PROOF

Our Fence Posts Will Last a Life Time

For any kind of hog, cattle, chicken ranch or garden fencing get our PRICES FIRST.

Prompt Shipments Anywhere

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Positively lowest prices — all sizes. Thousands of feet new and second hand water pipe, well and water casing, riveted and irrigation pipe.

Write, Phone or Wire

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Under entirely new management.
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BETTER THAN THE BEST BEEF SCRAPS
PACIFIC PIONEER
AVAILABLE PROTEIN FISH MEAT MEAL FOR POULTRY
SEND FOR SAMPLE AND PRICES
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CHEAPER TO FEED
NO FISHY FLAVOR

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HOPLAND, CAL.
Standard Bred S. C. White Leghorn Cockerels, selected for Breeders. **Four months old, $12 per dozen; Yearling Hens, $12 per dozen.** Standard Bred White Plymouth Rock, Fishel and Owen Farm Strains **Direct.** Hens one and two years old $18 to $24 per dozen. Four to five months' old pullets, $18 per dozen. Selected Cockerels and Cock Birds, $5 each and up.

The Home Circle.

LAND OF "PRETTY SOON."

I know of a land where the streets are paved
With the things we meant to achieve.
It is walled with the money we meant to have saved
And the pleasures for which we grieve.

The kind words unspoken, the promises broken,
And many a coveted boon
Are stowed away there in that land somewhere—
The land of "Pretty Soon."

There are uncut jewels, of possible fame,
Lying about in the dust
And many a noble and lofty aim
Covered with mold and rust.

And, oh, this place while it seems so near,
Is further away than the moon!
Though our purpose is fair, yet we never get there—
The land of "Pretty Soon."

It is further at noon than it is at dawn;
Further at night than at noon;
Oh! let us beware of that land down there—
The land of "Pretty Soon."
—The King's Own.

BEAUTIFYING COUNTRY HOMES.

The home on the farm or orchard is, or should be, one of the most carefully planned parts of the several elementary parts of the enterprise. Its purpose is not alone to furnish shelter for the owner, but is of necessity the social and business center of the farm. While many of our orchard homes are not in the country, as the term is ordinarily used, they are not to be classed as town homes.

They are situated at no great distance from neighbors, and the general effect is to furnish a more desirable mode of life than either the close built town, or the sparsely settled country usually encountered in farming communities.

In the design of the home, the welfare of the whole family should be considered. Foremost in importance is the fact that the home is the work-shop of the women of the family, and should be designed to the end that the household duties may be done with the minimum of friction and the maximum of efficiency. Don't have all the labor-saving devices outside the house. Washing machines can be operated by power as well as wood saws. A good range is quite as important to the kitchen as a good cultivator is to the farm or orchard.

In many districts the lighting of the home can be taken care of by the power companies so widely represented in our State, but where this is not available, there is the small independent electric power plant, or the ascetylene gas plant. There is no excuse for lack of good light. Nothing in the home is of greater value, as tending to keep the family circle complete, than a well-lighted home, with the added pleasure of wholesome amusement in the form of good reading, music and the cheerful fireside.

The home located among trees, such as is found in our orchards, should be of two stories, for the double reason that the living rooms are much cooler in the daytime, and sleeping quarters are more airy at night. Outside sleeping porches are a very prominent feature of the homes of the last few years, but the casement window gives almost as great freedom of air and is in every way a desirable window for sleeping quarters.

There is another feature of the country home that is sometimes forgotten. We owe a duty to the stranger passing along the road, whose heart will be brightened by the sight of a real home covered and surrounded by vines and flowers. Don't make it too formal, but have a profusion of flowers such as roses, geraniums and the like, with a moderate variety of color, and some of the modern flowers.

By the use of care and common sense in the selection of a site, the plan, the furnishing, and ornamentation of the country home there is no reason why it should not be made more attractive both to the home people and to the visitor. When the home is complete, give it a name. Pick one that has a meaning, some such as will draw attention to some admirable feature of the home. A name that will make the stranger see some natural beauty, or some comfortable homelike element in the general plan.

This is not an attempt to plan the details of a house, but rather to point out one way to keep the young folks in love with the healthy and wholesome life of the orchard and farm. The country home need not be grand or expensive to be comfortable and homelike; in fact, the opposite is more likely to be the case. It should, however, have the power to draw to it all the members of the family, to make them glad to return to it when absent for any reason, and to impress itself in some pleasant way on the "stranger within the gates."

Pomona. J. E. Adamson.

SEASONABLE RECIPES.

Fried Summer Squash—If it is the crookneck variety, wash and cut in slices almost an inch thick, cook slowly until tender, which will be in about half an hour, having the water salted. Rapid boiling cooks things to pieces, and we wish to keep the squash in good shape. The seeds are not taken out, for the squash should be used while both seeds and skin are very tender. When it is done, remove from the fire and lay slices in a colander to drain a little. Have ready a skillet with very hot butter in it, dip slices of squash in beaten whites of egg and then in browned bread crumbs, or simply dip them in flour and fry a delicate brown in the hot butter.

Poinsettia Salad—Peel small tomatoes and cut in eighths lengthwise, but do not separate sections at the stem end. Open like flowers on beds of lettuce. In the center pile 1 tsp. of cream cheese, and 1 tsp. of green peppers, chopped very fine. Serve with salad dressing.

SELF DEFENSE.

Village grocer—What are you running for, sonny?

Boy—I'm tryin' to keep two fellers from fightin'.

Village grocer—Who are the fellows?

Boy—Bill Perkins and me!

Do It Electrically

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ELECTRIC APPLIANCES in the household not only add to the convenience of all members of the family, but they are economical and time-savers. **ELECTRIC APPLIANCES** include **CHAFING DISHES, COFFEE PERCOLATORS, VACUUM CLEANERS, ELECTRIC IRONS** and every other appliance that is needed in the modern home, not forgetting **ELECTRIC FANS.**

We carry these appliances in many of our branch offices, and will be glad to have you call and inspect them. Where we do not carry them we will be just as glad to give you our expert advice.

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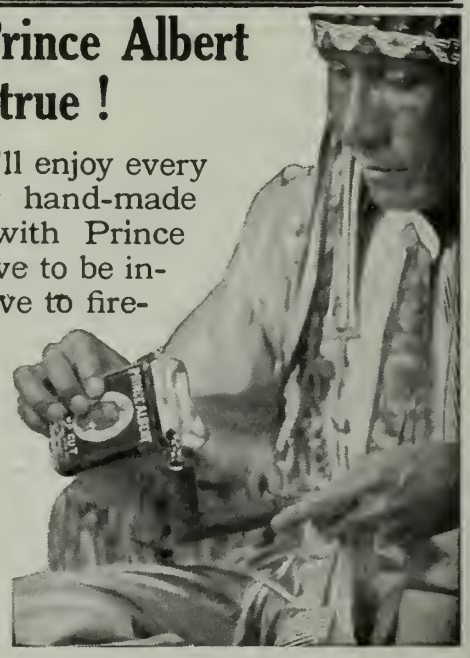
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Beats all how Prince Albert will ring true!

From the start you'll enjoy every puff of a pipe or hand-made cigarette packed with Prince Albert! *Don't* have to be introduced; *don't* have to fireproof your tongue; *don't* have to do any old thing but lay low on the shade-side of the lane and hum and smoke-smoke-smoke! The patented process makes that possible—and cuts out bite and parch!



Here is a photograph of one of the finest types of Indians now living, Chief Eagle Shirt, an ardent pipe smoker, who hails from the Pine Ridge Reservation. The Chief is 32 years old, and is one of the star attractions with "101 Ranch."

It cheers up your smoke-desires most astonishingly—so chummy, so cool, so mild, so mellow, is every fragrant puff of

PRINCE ALBERT

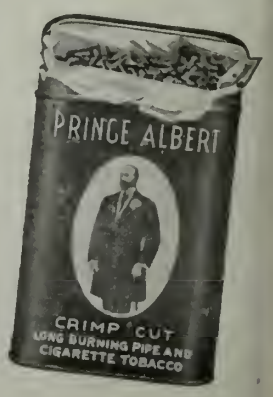
the national joy smoke

You get out your best Sunday jimmy pipe or some makin's papers and let Prince Albert sing its sunny smoke song in the language *your tongue* and *your palate* will know right quick! Give it a real try-out, and there'll be no doubt about P. A. being your side-partner in the immediate future!

Realize, it can't cost you more than 5c or 10c to prove that Prince Albert is all the most ardent enthusiast ever claimed for it!

Prince Albert is sold everywhere in toppy red bags, 5c (handy for rollers); tidy red tins, 10c; pound and half-pound tin humidors—and—in clever crystal-glass pound humidors with sponge-moistener tops that keep the tobacco in the finest possible condition.

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R. J. REYNOLDS TOBACCO COMPANY
Winston-Salem, N. C.

CHILDREN'S DRESSES.

Among the novelties in children's dresses are those made of cretonne or chintz. Some are entirely of this fabric, while others are in combination with white lawn, voile or some other sheer fabric. Dresses made of organdie in chintz patterns are favorites.

Smocking is much used as a trimming on linen, chambray and other cotton dresses. Military styles are used in the form of braid trimmings, novelty buttons, pocket arrangements and collars.

The normal waist line is preferred, although high-waisted and low-belted effects are also seen. Sleeves are usually set in at the regular arm size and are finished off with fancy cuffs to match the collars. Skirts are of various styles, among the most prominent being pleated effects, two-tiered skirts and circular skirts.

Serge and wool dresses are trimmed with plaid and checked silks which are used on the collars, cuffs and belts or in binding the seams. Combinations of navy blue and army blue and blue and red are very popular. Black and white checks and plaids are used for the entire dress or in combination with a plain color. Many colored wash dresses are made up in percale, gingham, linen, rep or novelty cotton.

IDIOT!

Grace was specially charming and attentive to her father on his arrival home from business. No more devoted, obedient daughter than she on this particular evening.

"Daddy," she said softly, when, dinner over, her parent lounged in comfort in his favorite chair, "did Cyril come to your office today?"

"He did," said papa quietly, knocking the ash off his cigar.

"What — what did he want, daddy?"

"Well, my dear, I've been waiting till I came home to see if you can tell me. As far as I could gather, he wanted to marry me; said that we had always loved each other, and that you could afford to keep him in the style to which he had been accustomed, and much more that I can't remember. So I told him to go home, get calm, and type it out and post it to me!"

ONLY A DOG!

"Only a dog!"—And yet a dog is the truest of all friends, the most forgiving, the most generous.

He will go with his master anywhere, and if fairly treated is always happiest at his side.

He would live with him in poverty the weakest half-starved cur that roams the city streets, the faithful loving heart is the same.

Whether of high breeding, and his value counted by the hundreds, or the weakest half-starved, loving heart is the same.

You cannot give the poor outcast the least kindness—a crust of bread, a dipper of water, even a pat and a kind word—without awaking a gratitude that brightens his eye and changes his whole aspect.—Mrs. Mary Johnson.

BRIGHTEN THE WAY.

They are such dear familiar feet that go along the path with ours—feet fast or slow, but trying to keep pace. If they mistake we must be mute, not turning to impute grave faults, for they and we have such a little way to go, can be together such a little while upon the way, we must be patient while we may. — George Klingle.

TIME WASTED.

"Dinah, did you wash the fish before you baked it?"

"Law, ma'am, what's de use ob washin' er fish what's lived all his life in de water?"—Philadelphia Leader.

THIS'LL PLEASE WILSON.

Ascertaining the nationality of the parents of her pupils pursuant to a school rule, a Salem street teacher called the roll something as follows:

"Uriah Umson?"

"English."

"Heinrich Haas?"

"German."

"Louis La Farge?"

"French."

"Johnnie Jones?"

The last boy, who had not been paying enough attention to the proceeding to know what it was all about, blurted out:

"NEUTRAL!"

THE EASIEST WAY.

Country Doctor (superintendent of Sunday school)—Now, children, who can tell me what we must do in order to get to heaven?

Bright Boy—We must die.

Country Doctor—Quite right, but what must we do before we die?

Bright Boy—Get sick and send for you.

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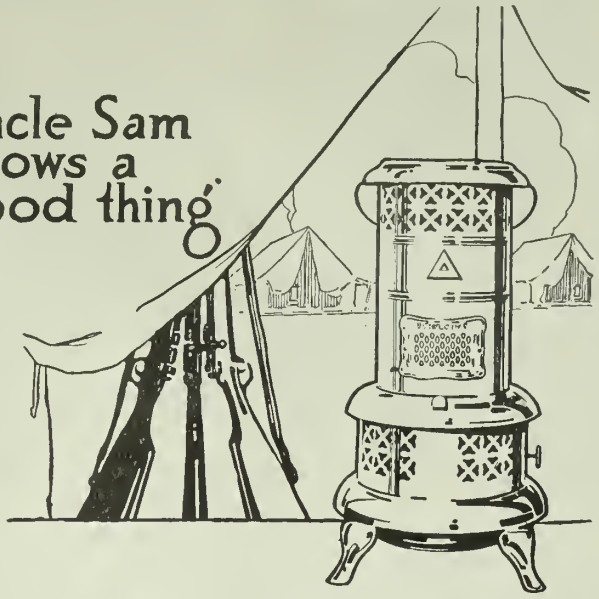
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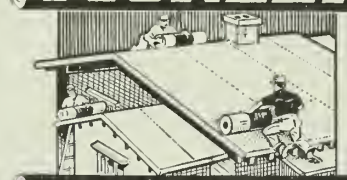
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The Markets.

Unless otherwise noted prices are f. o. b. San Francisco.
San Francisco, Sept. 29, 1915.

WHEAT.

The wheat market shows very little change, there being a general inclination to hold off for a development in the export trade. Northern red is a trifle easier.

Sonora	$1.55	@1.60
Cal. Club, ctl	1.52½	@1.55
Northern Bluestem.	1.65	@1.70
Northern Club	1.55	@1.57½
Northern Red	1.52½	@1.65

BARLEY.

The barley market is reported a little stronger owing to inquiry for export, though there has been no change in quotations.

Shipping	$1.25	@1.30
Choice Feed, ctl.	1.17½	@1.22½

OATS.

Red seed oats are a little higher, but otherwise there is little change. Most of the oats now coming in have to be recleaned, and this makes the prices to growers a little less than they otherwise would be.

Black	$1.85	@2.00
Red Feed	$1.25	@1.30
Red Seed	1.50	@1.75
White	1.30	@1.40

CORN.

The corn market has been a little quiet this week with no change in the offerings or in prices.

Eastern Yellow	$1.80	@1.85
Milo Maize	1.75	@1.80
Manchurian	1.40	@1.60
Kaffir	1.80	@1.85

BEANS.

The firmness which seemed a possibility a week ago has not materialized; and prices on a good many varieties of beans have made another drop. Even red kidney beans, which are reported rather scarce, have followed the lead of the others. Limas, Mexican reds and blackeyes have led in the drop. Blackeyes are showing up in large quantities; and early in the week were selling around 3 cents; but the top price is now placed at $2.90. Large whites, pinks, bayos and horse beans are unchanged.

(On wharf, San Francisco.)

Bayos, per ctl	$4.10	@4.20
Blackeyes	2.75	@2.90
Cranberry Beans	4.00	@4.10
Horse Beans	2.25	@3.00
Small Whites	4.00	@4.25
Large Whites	4.10	@4.20
Pink	3.25	@3.50
Limas	4.10	@4.25
Red Kidney	5.25	@5.50
Mexican Reds	4.50	@4.75

SEEDS.

The seed market continues inactive; and no considerable business is to be expected until the demand for alfalfa seed begins.

(Wholesale Prices, San Francisco.)

Alfalfa	17	@18 c
Brown Mustard, per lb.		Nominal
Canary	9	@10 c
Hemp	3	@ 3½c
Millet	2½	@ 3 c
Timothy	7½	@ 8 c

HAY.

Local hay men make only one change in quotations this week, though the situation is materially stronger, and more hay is changing hands at the top quotation than heretofore. Receipts in this market are decreasing rapidly, the arrivals for the past week being only about half that of the same week for last month. A government contract for export and several fires have reduced the visible supply in California by eight or nine thousand tons. Alfalfa hay of the best grades is scarce and this is at the top quotation. Practically all the hay is now under cover; and dealers here predict that prices will be advanced sufficiently at least to cover storage charges.

do No. 2	8.50	@11.00
Tame Oats	9.00	@13.50
Wild Oats	7.00	@10.00
Alfalfa	10.00	@13.00
Stock Hay	6.00	@ 7.00
Straw, per bale	.25	@ .40

FEEDSTUFFS.

The feedstuff market has been moving along with very little change. Green feed is now drying up, and there is a tendency in some lines to grow firmer in consequence, though the price changes are not large. Middlings and rolled oats are quoted lower.

(Wholesale prices per ton, carload lots, San Francisco.)

Beet Pulp, per ton	$20.00	@21.00
Alfalfa Meal, ton	16.00	@19.00
Alfalfa Molasses Meal per ton	19.00	@20.00
Bran, per ton	27.00	@28.00
Oilcake Meal	38.00	@39.00
Cocoanut Cake or Meal	23.00	@25.00
Cracked Corn	41.00	@42.00
Middlings	33.00	@34.00
Rolled Barley	25.50	@26.50
Rolled Oats	29.00	@31.00

VEGETABLES.

The market as a whole has been rather steady this week, with many small changes up and down from day to day but with no very marked movements. In several lines the range has been narrowed; and in several the receipts have reached their maximum and may be expected to diminish from now on. Lima beans are in plentiful supply and are dropping from day to day.

(Wholesale Prices, San Francisco.)

String Beans	1½	@ 2½c
Lima Beans	1¾	@ 2¼c
Peppers, bell, box	40	@50 c
Tomatoes, lug	25	@45 c
Cucumbers, lug	20	@35 c
Summer Squash, lug	25	@40 c
Green Corn, sack	.75	@1.60
Okra, lug	20	@35 c
Eggplant, lug	40	@60 c
Celery, doz.	20	@30 c

POTATOES AND ONIONS.

Sweet potatoes have recovered from the drop of last week, and are moving off well. Garlic is firm and has scored a slight advance. Potatoes are up slightly for the better grades and are selling at a wider range.

Salinas Burbanks	$1.25	@1.60
Delta Burbanks	.85	@1.25
Sweet Potatoes, ctl.	1.35	@2.00
Onions, ctl	40	@60 c
Garlic, per lb., new	7	@ 8 c

POULTRY.

Large receipts of young stock are reported from the east, and these are a little easier, though with very little change in quotations. Squabs show an advance for larger stock, the aim of local dealers being to pay on the basis of 35 cents per pound.

Turkeys, old, lb	17	@19 c
do, young	23	@25 c
Broilers, 15 lbs. to doz and less, lb	26	@27 c
do, over 15 lbs to doz	22	@24 c
Fryers	19	@20 c
Hens, extra, per lb	17	@18 c
Small Hens, per lb.	14	@15 c
Smooth Young Roosters pr lb.	19	@20 c
Squabs, per doz.	2.00	@4.00
Geese, per pair	2.00	@2.50
Ducks, young, lb	13	@14 c
Old	12	@13 c
Belgian Hares	8	@ 9 c

BUTTER.

The butter market has been seesawing back and forth; but is on the whole steady. So far this week, receipts have been running light; and unless there is an increase of arrivals during the remaining days of the week, an advance is to be expected. Arrivals from Oregon continue of large proportion, though the Portland quotations appear to be higher than those of San Francisco.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	26½	26½	26½	26½	26	26
Prime Firsts	25	24½	24½	24½	24½	25
Firsts	25	24	24	24	24	24

EGGS.

Eggs have been rather scarce all week and prices have been moving up steadily closing at the highest point. The present high prices are said to be pulling a good many eggs out of storage, with a prospect that heavy withdrawals from storage are still to come.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	38	38	39	40	40	40½
Sel. Pul.	32½	32½	34½	35½	36	37

CHEESE.

The cheese market has made a sudden jump; but, as this is said to be largely due to the operations



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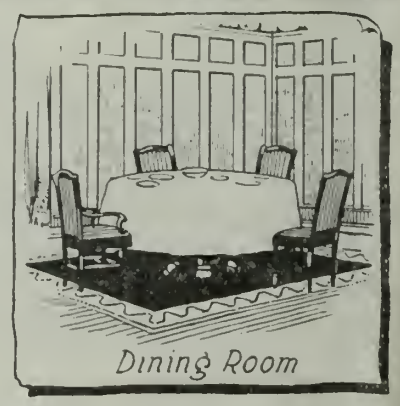
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of one house, a reaction is predicted by some dealers. The top price for flats has touched 16 cents, with the last sales on fancy Young Americas at 14 cents.

Y. A.'s, fancy 14c
Fancy Calif. flats, per lb 16c
Calif. Cheddar flats, per lb. 16c
Monterey Cheese .....14@15c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	35	35	35	35	36	37
Cheese	12	12	12	12	12	12

DECIDUOUS FRUITS.

Peaches, figs and grapes are very plentiful. Peaches have dropped considerably; but figs and grapes are holding their own, at least as far as the top quotations are concerned, though the bulk of the figs now offering are bringing the lowest quotation. Strawberries and blackberries are getting scarce, and prices are going up rapidly for the better grades. The general run of tree fruits show very little change from last week.

Huckleberries, lb ..... 4 @ 7 c
Strawberries, chest ....$4.00@5.00
Blackberries, chest .... 4.25@5.00
Prunes ..... 1.00@1.25
Figs, bx., double layer..30 @50c
Pears, Bartlett, box ... 1.00@1.75
Peaches, small box ....25 @40 c
Lugs .....35 @50 c
Apples, Grav. ..... .70@1.10
Alexander, 4-tier ... .75@1.00
Belleflowers ..... 60 @90 c
Quinces, box .....50 @75 c
Casabas, doz. .....40 @50 c
Persian Cantaloupes, dz. 1.00@2.00
Cantaloupes, crate ....50 @85 c
Watermelons, doz ..... .75@2.50
Grapes, Thompson
Seedless, crate .....75 @85 c
Malaga, lugs .....60 @70 c
Tokay, crate .....50 @75 c
Muscats, crate .....55 @70 c
Black, lugs, ...40 @60 c

DRIED FRUITS.

The important item in dried fruits is the announcement of new raisin prices by the Association. The new prices, which are quoted below, show few changes from those of last year. Fancy seeded in 12 oz. cartons are ⅛ cent lower and 1-crown loose muscatels ½ cent higher. Prices are guaranteed until January 1, 1916. Strictly fancy selected black figs are bringing 3 cents; but the average run is said to be bringing only 2 cents. Apricots are a little weaker; and it is claimed that some have been bought below 7 cents. The usual price paid now for good stock is about 7½ cents. Large quantities of apples are being dried; but so far there has been little inquiry here either to sell or to buy. Seedless raisins are said to be pretty well sold up, ranging from 5½ to 6 cents in the great box. Peaches are weak at the low prices. Some small lots of new fruits are offering. Concerning the dried fruit situation in the East, the New York Journal of Commerce says:

"Santa Clara Prunes 1915 pack for early fall shipment are slightly easier, according to telegraphic advices from the Coast. Quotations which were being firmly maintained a few days ago are inclined to be shaded in several quarters and large offerings are being made.

Offerings are made from the Coast on a 4c basis for straight 40s for October shipment f. o. b. common shipping points. The quotations which were being made in the market a few days ago for early October shipment continue to be in evidence; and 40s and 90s, inclusive, Santa Clara prunes 1915 pack, are being offered at a 3¾c basis. Other operators are said to be willing to operate on even better terms, quoting 40s and 60s, inclusive, for shipment the first ten days of October at a 3¾c basis.

September shipments also bear an easier tone, and stocks are in evidence below the previously quoted figures which have been quoted for several days. Straight 50s are obtainable for Santa Clara prunes 1915 pack at a 3⅞c basis and 40s to 60s, inclusive, at a 4⅛c basis. A limited amount of 40s to 70s are being held by one packer at a 4c basis for September shipment.

Coast advices report that estimates of the Oregon Italian prune crop are being reduced. One packer telegraphed that the yield would not be more than one-half the earlier estimates. This would place the 1915 pack, if the reports prove true, at about 15,000,000 pounds, as previous figures have ranged close to 30,000,000 pounds for this season's production.

(Prices to Growers.)

1915 crop.
Apples .....5½ @6¼c
Apricots, per lb .....7 @9 c
Figs, white .....4 @4½c
Black .....2 @3 c
Calimyrna .....5½ @6 c
Prunes .....3⅜ @3¾c
Peaches .....2¾ @3¼c
Pears .....5 @8 c
Raisins: Association Prices, 1915 crop, in effect on and after September 28, 1915:
Fancy seeded, No. 16 .....7 c
Fancy seeded, No. 12 .....5⅝c
Fancy bulk seeded .....6 c
Choice seeded, No. 16 .....6¾c
Choice seeded, No. 12 .....5½c
Choice bulk seeded 5¾c
Seeded raisins, Sun Maid quality, 36 to case, per case $2.45
Seeded raisins, Sun Maid quality, 48 to case, per case 3.25
Loose raisins in 50-pound boxes:
1-crown loose Muscatels ....6 c
2-crown loose Muscatels 5½c
3-crown loose Muscatels 5¾c
4-crown loose Muscatels ....6 c
San Jose prices to growers for the 1915 crop are:
Apricots .....8 @9 c
Prunes, subject to dist. ..3¾ @4 c
Peaches .....2½ @3 c
Pears .....5 @8 c

CITRUS FRUITS.

The top quotations for strictly fancy oranges and grapefruit have been marked up a little; but, generally speaking, the market shows slight change, little interest being taken on account of the abundance of deciduous fruits.

Shipments of valencia organes from Southern California are going east at the rate of over 30 cars daily and meeting with good demand. Lemons also are gaining some, though the season is too far advanced to expect anything more than a chance to clean up accumulated stocks.

On the New York auction Monday Sept. 27th, thirteen cars of valencias averaged from $3.35 up to $7.25 per box. Lemons brought $2.60 to $2.80. At Chicago the same day valencias sold for $4.50 up to $5.50, and lemons averaged $2.25 to $3 per box.

(Wholesale prices, San Francisco.)
Oranges, Valencias, bx..$3.75@4.75
Grapefruit, seedless, bx. 2.50@3.00
Fancy ..... 3.00@4.00
Lemons, box ..... 1.50@2.75

HONEY.

The cheapness of fresh fruits here is said to be having a bad effect on the demand for honey, city sales being below the average for this time of the year. Some stock is being shipped to Europe all the time. Arrivals from Nevada continue.
Water White, comb ..11 @12½c
Amber .....10 @11 c
Water White, extract'd 6 @ 7 c
Light Amber ..... 3 @ 4 c
Dark ..... 2½ @ 3 c

NUTS.

(Exchange prices f. o. b. common shipping point.)
Almonds (1915):
Nonpareil ..... 15 c
IXL 13½c
Ne Plus Ultra ..... 13 c
Drakes ..... 11 c
Languedocs ..... 11 c

LIVE STOCK.

Except for the continued weakness in hogs, the market is holding its own, though advances are not likely in any line. Hogs are off a quarter of a cent.
Steers, No. 1 .....6¼ @6½c
No. 2 .....6 @6¼c
Cows and Heifers, No. 1 5½ @5¾c
No. 2 .....5¼ @5½c
Bulls and stags .....4 @5 c
Calves: light .....8 @8½c
Medium 7½c
Heavy .....6 @7 c
Hogs, grain-fed:
200 to 300 lbs. ..... 6 c
100 to 200 lbs. 6½c
Prime Wethers .....6 @6¼c
Ewes .....4¾ @5 c
Suckling lambs .....7 @7½c

DRESSED MEATS.

Steers .....10 @10½c
Veals, large .....12½ @13 c
Small .....14 @15 c
Prime Wethers .....11 @11½c
Ewes .....10½ @11 c
Suckling lambs .....12 @13 c
Hogs .....11 @11½c

HOPS.

Hops are a little firmer this week, most of the sales of the last few days being at or near 12 cents and very few sales ranging as low as 10. Dealers here, however, claim that this is due to the quality of the hops offering.
1915 crop .....10@12c

WOOL.

The wool market is still dragging with little change in the situation. Not much is moving.
Humboldt and Mendocino..21@28c
Sacramento Valley, lb .....18@23c
Southern, year's staple ....15@18c
Six months .....14@16c
Fall clip:
San Joaquin ..... 8@10c
Northern .....10@14c

HORSES.

Prices for most lines of horses have been reduced this week; but this does not indicate any sudden change in the market here. Few horses of the better grades have been sold here for a long time; and each sale is really made on its own merits. The new quotations more nearly represent the values according to local authorities.

(Approximate values at San Francisco, based on auction sales.)
Heavy drafters, 1700 lbs and up .....$250@275
Light drafters, 1550 to 1650 lbs ..... 150@185
Chunks, 1350 to 1500 lbs 150@175
Wagon horses, 1050 to 1350 lbs. ..... 110@130
Green Mountain range horses, 950 to 1200 lbs. 50@ 85
Farm workers ..... 60@ 75

MULES.

1200 lbs and up .....200@225
1100 lbs .....175@200
1000 lbs .....140@160
900 lbs .....100@150

HIDES.

Hides are reported scarce with no change from previous figures. The situation has firmed up a little.
lbs .....16 @17½c
Medium .....15½ @17 c
Light Steers under 48 lbs .....15½ @17½c
H'vy Cows, over 50 lbs.15½ @17½c
Kip .....15½ @17½c
Calf 17½c
Dry Hides .....26 @27 c
Dry Kip, 10 to 15 .....25 @26 c
Dry Veal, 5 to 10 .... 30 c
Dry Calf, 7 down .... 30 c
Horse Hides—
Salt: Large $3.00
Medium 2.50
Small 1.00

SPECIAL DECIDUOUS MARKET REPORT.

By J. L. Nagle.

Sacramento. Cal., Sept. 27, 1915.

Heavy shipments of Tokays during the past two weeks have more or less affected the demand in the auction markets, with the corresponding result of a slight depression. The quality, however, continues to be above the average and with the exception of a few cars, the crop is moving in good condition. We anticipate that about 65 to 70 percent of the Tokays and about 85 percent of the Malagas have been shipped. Weather conditions remaining favorable, shipments will string out for the next thirty days.

Practically all tree fruits, with the exception of pears from the Santa Clara and Monterey districts, have been shipped and unless California is visited with early rains, we estimate the crop will be within 1500 to 2000 cars short of last season.

There still continues to be an unusually heavy shipment of peaches, averaging from 400 to 600 cars daily, flooding the far Eastern markets. This unprecedented tonnage has affected the market to a certain extent on California fruits, but this competition should be out of the field within ten days or two weeks and we anticipate an exceptionally strong demand on shipments commencing ten days hence.

The following prices have ruled for the week:

New York.—Bartlett Pears, averaged $2.94; B. Hardy, $2.12; Comice, $2.37; Tokay Grapes, $1.32; Malaga, $1.06; Kelsey Plums, $1.42; Gross, $1.55.

Chicago.—Malaga Grapes, 97 c.; Tokay, $1.25; Cornichon, $1.13.

Boston.—Tokay Grapes, averaged, $1.32; Malaga, 97c.; Bartlett Pears, $1.87.

Total shipments to date 10,919 cars. Total shipments same date, 1914, 11,761 cars.

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In a letter received from Prof. G. H. True of the University Farm, he says: "I have told Prof. Wickson in person how much I enjoyed his little book on Garden Flowers, which strikes me as being the best thing of the kind that has ever come into my hands. This is a book that does not appear to have been made, but simply to have come out of the experience of the author in a most intimate and natural way. It is such a book as any one would like to present to all his friends who have any love for flowers."

A new book by the Lippincott Company, Philadelphia, entitled "Common Diseases of Farm Animals," by R. A. Craig, D. V. M., has just been issued. This new work contains 124 illustrations, 327 pages, bound in cloth, and sells for $1.50 net. The book especially emphasizes causes, prevention and early recognition of common diseases.

Our latest book, written by W. S. Guilford is meeting with a fine reception from the critics. Many letters and press notices have been received from those who have seen the first copies of "California Hog Book" and we know that every one who buys a copy will be well pleased. Price $2 postpaid.

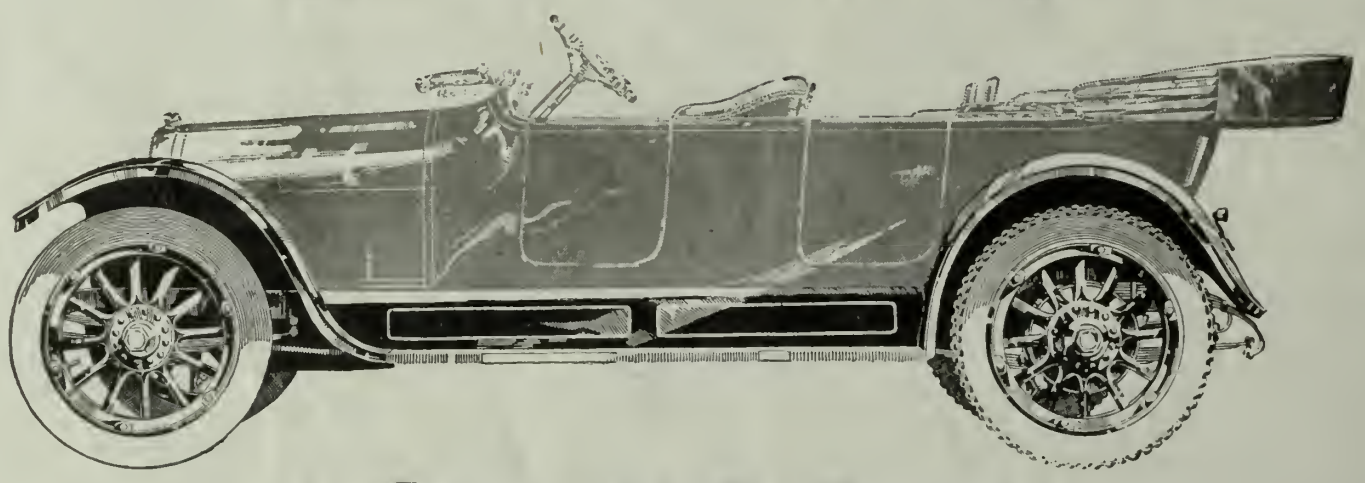
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Picked horses from the best breeding sections of the U. S., competed for world's honors, in weather, and at an Exposition full worthy of California's premier opportunities as a horse-breeding state.

[Written for Pacific Rural Press.]

PERFECT California October weather and well-nigh perfect stock, shown in the spick-and-span, full-fleshed condition, fit for the greatest world's fair ever held, made a great success of the Panama-Pacific International Exposition Draft Stock Show, September 30 to October 4. Most of the entries competed. The high prize-winners of the International and the various State Fairs of the United States were selected and well fitted for this, the World's Fair. The best judges obtainable studied the animals from every angle, and then studied and compared, and had to test out the most promising ones time and again. Thus it was that the judging, which was scheduled for one day per breed, always took so much time that it was continued day after day until special dispensation was required to provide rings in the great, open, turfed "Forum" for all of the breeds and several classes were postponed from day to day.



LAGOS 99093,
Grand Champion Percheron stallion, Panama-Pacific Exposition.
Foaled 1911. First in the biggest class shown.



MOUTON, 104780,
Reserve Grand Champion Percheron stallion, Panama-Pacific Exposition.
Foaled 1913. Sire was champion of France.

Exhibits, Judges and Prizes.—There were 154 individual Percheron entries, besides 54 groups; 83 Belgian entries, besides 29 groups; 62 Clydesdale entries, besides 33 groups; and 103 Shire entries, besides 45 groups. Of jacks and jennets, there were 49 entries, besides 22 groups; and there were 43 individual mules, besides teams of two to six each in 18 entries. Twenty of the 46 breeders who entered draft stock were from California; 8 from Illinois; 6 from Iowa; 5 from Missouri, all entering jacks or mules; 3 each from Kansas and Oregon; and 2 from Wisconsin. Percheron judging by Dean C. F. Curtiss of Iowa State Agricultural College, furnished a continuous show of the springy, high-stepping, free-moving drafters. These were awarded a total of $8,685 cash prizes, besides six objects of art valued at $2,000, contributed by the Percheron Society of France. Belgians showed up in smaller numbers, of horses closer to the ground, but fully as heavy as the Percherons. They were judged by President Samuel Bell of the American Association of Importers and Breeders of Belgian Draft Horses, who awarded ribbons carrying $7,685 cash prizes. Clydesdales, prettiest and springiest of all to the eyes of the spectator, were awarded ribbons worth $5,685 in cash, by Alexander Galbraith of New York City. Shires, heavy of bone and free in action, were last of the horses to be judged, beginning on Monday. Secretary Chas. W. Burgess of the American Shire Horse Association judged that breed, awarding $7,685. The Exposition Commission from Illinois awarded $675 to each of these classes. The jacks, jennets and mules were judged, beginning the next day, the former by Frank B. Graham of Kansas City, the latter by Jeff D. Gates of Chicago Union Stock yards. Jacks and jennets drew $4,280 in premiums.

A grand parade of the high-prize winners in both the draft classes and those of the smaller horses will be held October 13, when the trophies, cups and prizes are to be awarded.

Hard to Choose the Winners.—The utmost good nature was shown among the draft horse breeders; very little criticism of the judges was heard, several of the prize-winners having been recognized as such before the judging. But, most of those which drew prizes were so nearly equal in quality that the judges were slow to place them and then only after considerable testing and switching

(Continued to page 343.)

Salvador Stock Farm

Headquarters for

SHIRES

in California



Shire Stallion Desford Banker, at the head of the Salvador Stock Farm Stud.

Stallions, Mares, and Young Stock for sale at all times.

See our exhibit at Barn No. 1, Panama-Pacific International Exposition.

HORSE SHOW

Sept. 30 to Oct. 13, '15

HENRY WHEATLEY, Prop.

Napa - - - California

Truman's Champion Stud

America's Largest Importers of

Shires

Percherons, Belgians and Hackneys

This week, at the Panama-Pacific Horse Show, we won:

Shire Stallions

Grand Champion
Reserve Grand Champion
Senior Champion
Reserve Senior Champion
Junior Champion
Reserve Junior Champion
First Five Times

Shire Mares

Grand Champion
Senior Champion
Reserve Senior Champion
First Best Three Mares
First and Third Best Stallion and Three Mares.
Also two English Gold Cups

We also had the Reserve Senior Champion Percheron Mare

Send for illustrated catalogue and pamphlet of "THE SOVEREIGN SHIRE", sent free

Truman's Pioneer Stud Farm

Box O. Bushnell, Ill.

At Barn 1, P. P. I. E., San Francisco, Until Oct. 13, 1915.

Pacific Rural Press

SAN FRANCISCO | SATURDAY, OCTOBER 9, 1915. | LOS ANGELES

Panama Pacific Draft Horse Awards.

The finest quality was exhibited; American bred horses made the best showing ever in some sections, and strong in all.

[Written for Pacific Rural Press.]

From the minute the first class of Percheron stallions entered the ring till the last class was judged it was apparent that this division of the show was to be marked with surprisingly good individuals in gratifying numbers. Nor was this to be solely an importers' show, for as the judging continued, American-bred animals kept piling up victories with the result that the showing of Percherons was proclaimed by Wayne Dinsmore, secretary of the Percheron Society of America, as being the strongest and most highly representative of any ever held in America. Indicative of this was the winning of first, second and third in the two-year-old stallion class by American-bred animals and the winning of junior and reserve champion prizes in the mare classes by a mare bred in Virginia. The grand champion mare was also an American product, being bred and raised in Iowa.

The first blue ribbon winner in the stallion class, Lagos, was also senior and grand champion stallion in the show. The five tops in this, as in other classes, were conspicuous for their quality, the more so perhaps on account of the mediocre quality at the tail end.

First in the three-year-old stallion class went to Matineux, a California-owned horse, which was afterward accorded reserve senior championship honors.

The stallion Mouton, owned in California, took first in the two-year-old class, securing reserve grand championship ribbon later.

With a class of 14 aged mares, one of which was owned by the Iowa State College and judged by two other judges on that account, Dean Curtiss' task was not an easy one. The gray mare, Joie, was placed first in this class, being pushed by Oaklawn Queen for that place and later being beaten out for senior championship by the three-year-old Manon, both of which are owned in California, and displaced for grand and junior championship by Maplegrove Snowball, a two-year-old.

Shires.—Credited as being one of the finest showings of Shires in recent years, particularly in the aged stallion, two-year stallion and two-year mare classes, the Shire division stood right up in the front ranks, strong and representative.

Chas. W. Burgess, Sr., who judged this section, commented highly on the California showing, placing special emphasis on the two-year-old mare class where the three tops were California-owned animals, that were to his mind as fine an exhibt of the breed as he has seen or judged for a number of years.

In some respects the Shires outclassed all other breeds shown, the uniformity of each class being one of the noticeable features. Tail ends were more conspicuous by their absence in this division than in any other breed. This, too, speaks well for California breeders; for each class was generously filled with California, owned, and in many cases, California-bred animals, demonstrating that our breeders are getting good ones.

In numbers, this division stood second only to the Percheron exhibit, the aged stallion class having 10 entries and the aged mare class the same number.

In point of quality and uniformity too high praise cannot be given the Shire exhibit and it was so well represented by California-owned stock that we may feel justly proud of it. Groups and championships have not been awarded as this is written.

Belgians. — Represented by the best Belgians in America, also commanding attention for the strong showing of American-bred animals, the Belgian division was altogether satisfying.

In more ways than one this showing was demonstrative of the progress that is being made by American breeders. The old style, squatty European type of the Belgian was conspicuous by its absence, showing that the individuals imported in the past are reproducing their kind and that the breed is proving to be well suited to conditions in this country.

In stallions the horse Farceur received most favorable ringside comment and Judge Samuel Bell awarded him first in his class, senior and grand championships. As an individual he is remarkable in that he has proved an excellent breeder and in face of high show condition possesses a remarkably clean set of legs. Seldom has a more interesting class been seen in Belgians than this horse and three of his daughters which were shown in the stallion and three mare class.

Clydesdales.—Not so large in numbers, due perhaps to the fact that the breed has not, as a general rule, been popular in California, thereby lessening the number of local exhibitors, the Clydesdale show was nevertheless a creditable one, and would doubtless have commanded more attention, had not the other breeds previously shown been of such a high standard.

Naturally having good clean limbs and lots of action, this division, especially where the classes were fairly well filled, created much ringside comment, and to those who look with unprejudiced eyes upon the breed the showing was of vast interest.

PERCHERONS.

The following awards were made in the order given, in the Percheron division: Stallions 4 years old or over, Lagos, shown by Singmaster and Sons; Londercitos, by Dunham-McLaughlin; Jalap, by Singmaster and Sons; Jusque, by Anita M. Baldwin; Ithos, by M. Bassett.

Stallions 3 years and under 4: Matineux, shown by Dunham-McLaughlin; Majorat, by Singmaster and Sons; Mordu, by Thos. D. McLaughlin; Moscou, by Dunham-McLaughlin; Woodrow, by Singmaster and Sons.

Stallions 2 years and under 3: Mouton, shown by Thos. D. McLaughlin; Nobob, by Dunham-McLaughlin; Nandon, by Singmaster and Sons; Nadir, by Singmaster and Sons.

Stallions 1 year and under 2: Keota Jalap, shown by Singmaster and Sons; Carnarad, by W. S. Corsa; Elwood, by A. C. Ruby; Drangiana, by E. B. White; Carhall, by W. S. Corsa.

Mares 4 years and over: Joie, shown by Truman's Pioneer Stud Farm; Oaklawn Queen, by Anita M. Baldwin; Mabel, by James Edson; Italienne, by Singmaster and Sons; Livie by Anita M. Baldwin.

Mares 3 years and under 4: Manon, shown by Anita M. Baldwin; Carnoress, by W. S. Corsa; Meridionale, by Singmaster and Sons; Meninge, by Singmaster and Sons; Black Bessie, by Dunham-McLaughlin.

Mares 2 years and under 3: Maplegrove Snowball, shown by Singmaster and Sons; Cicely, by Anita M. Baldwin; Folito II, by W. S. Corsa; Incomparable, by Anita M. Baldwin; Black Besse, by Dunham-McLaughlin.

Mares 1 year and under 2: Carjante, shown by W. S. Corsa; Maplegrove Ethel, by Singmaster and Sons; Carne, by W. S. Corsa; Labelle, by Dunham-McLaughlin; Carnona, by W. S. Corsa.

Get of one sire: Get of Jalap, shown by Singmaster and Sons; Get of Carnot, by W. S. Corsa; Get of Fernand, by Thos. D. McLaughlin; Get of Carnot by W. S. Corsa; Get of Godillot, by A. C. Ruby.

Produce of Dam: Produce of Jante, shown by W. S. Corsa; Produce of Fedora, by E. B. White; Produce of Picot of Paicines, by Thos. D. McLaughlin; Produce of Senora, by C. W. Bowers.

Stallion and three mares: 1st, Dunham-McLaughlin; 2nd, Singmaster and Sons; 3rd, W. S. Corsa; 4th, W. S. Corsa; 5th, W. S. Corsa.

Five stallions owned by exhibitor: 1st, Dunham-McLaughlin; 2nd, Singmaster and Sons; 3rd, Thos. D. McLaughlin.

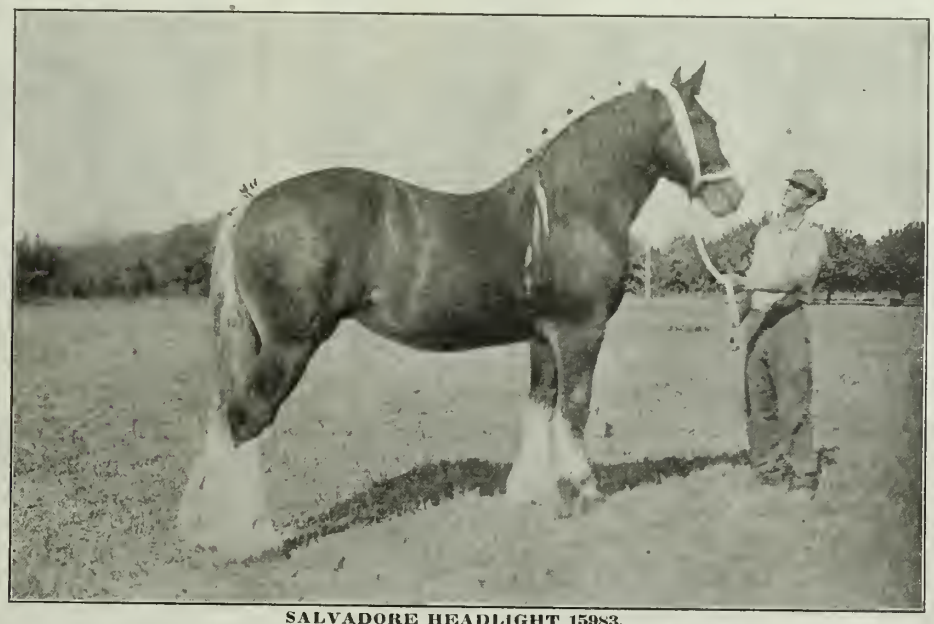
Three mares owned by exhibitor: 1st, Anita M. Baldwin; 2nd, W. S. Corsa; 3rd, Singmaster and Sons.

Senior Champion Stallion: Lagos, shown by Singmaster.

Reserve Senior Champion Stallion: Matineux, shown by Dunham-McLaughlin.

Junior Champion Stallion: Mouton, shown by Thos. D. McLaughlin.

Reserve Junior Champion Stallion: Nobob, Dunham-McLaughlin.



SALVADORE HEADLIGHT 15983.
First Shire mare in one and under two year class. Foaled and raised on the Salvador Stock Farm, Napa, Cal.

Grand Champion Stallion: Lagos.

Reserve Grand Champion Stallion: Mouton.

Senior Champion Mare: Manon, shown by Anita M. Baldwin.

Reserve Senior Champion Mare: Joie, shown by Truman's Pioneer Stud Farm.

Junior Champion Mare: Maplegrove Snowball, shown by Singmaster and Sons.

Reserve Junior Champion Mare: Cicely, shown by Anita M. Baldwin.

Grand Champion Mare: Maplegrove Snowball.

Reserve Grand Champion Mare: Manon.

SHIRES.

The awards as far as made up to October 5 in the Shire division were given in the following named order:

Stallions 4 years and over: Boro Blusterer, shown by Truman's Pioneer Stud Farm; Stow Royalty, by Truman's Pioneer Stud Farm; Anwick Arthur, by Easton and Ward;

(Continued on page 343.)

Breeders Commend California for Horses.

California Association maps out Future Policy and acts as guest to Breeders all over America. Generous Praise given for past work.

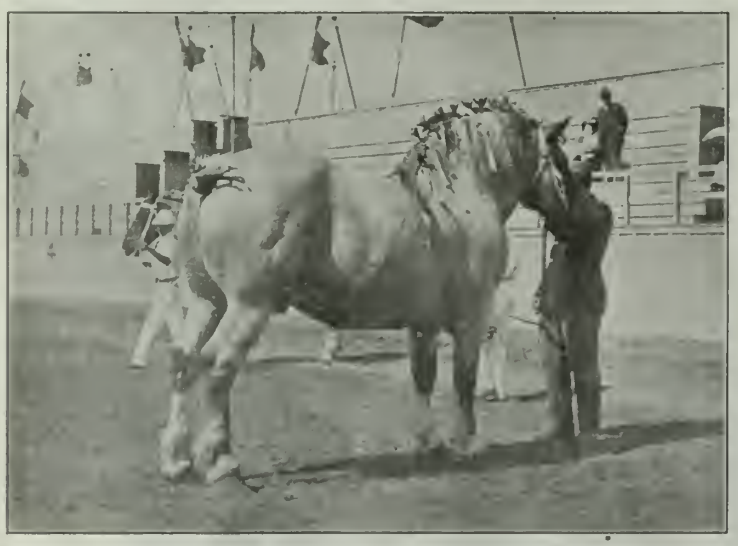
[Written for Pacific Rural Press.]

With due respect to other meetings of horsemen held during the first week of the Exposition's Livestock Show, the annual meeting and banquet of the California Draft Horse Breeders' Ass'n was beyond doubt of most importance to California farmers and breeders.

At the business meeting held on the Exposition grounds in the afternoon of October 1 the attendance was smaller than had been hoped for; but those present showed a keen enough interest in the welfare of the association to make up for those who were not present.

Purebred Auctions Recommended. —At this meeting a decision was reached to perpetuate the annual purebred sales of drafters, which were started last winter with the sale held at Davis. It was the sense of the meeting that such sales would do more toward the advancement of the draft horse than any other single thing, affording as it does an outlet for the small breeders' surplus animals and providing an opportunity for the buyer to purchase direct from the breeder without seller, as has been the rule for so long a time in this State. He emphasized the fact that buyers at last year's sale had been well satisfied and gave as his belief that this was one of the best reasons why another sale should be held the coming season; for with the growth of this sort of confidence the seller will most surely be of a satisfied kind in the future. One member strongly urged the continuance of these sales on the ground that they made for more efficiency in horse breeding, lessening the cost of stallions to the farmer, increasing the number of breeders, and allowing them a greater margin of profit. There is no longer any doubt but this factor of over-valuation in stallions is discouraging many a farmer in horse breeding, the interest and depreciation in stallions being so heavy as to materially reduce their earning power; and in many instances actually cause a big financial gap in breeding operations.

Colt Shows Favored. — Progress in the promotion of the county colt shows this fall was reported, this



FARCEUR, 7332.
Grand champion Belgian stallion, Panama-Pacific Exposition. Bred 65 mares, season of 1915. Foaled 1910.

needless expense.

This action shows the commendable spirit that has been characteristic of this organization since its inception, namely: that of putting the horse business of the State upon a more sound and permanent basis.

The continuance of these sales was given an added impetus by officers and members who sacrificed on horses sold at the first auction sale, but who have so much confidence in the ultimate good these sales can accomplish that they stand ready, if the need arises, to assume further losses till such time as the movement is generally recognized for its real worth to the State.

As we wrote in these columns concerning the first sale, it was worthy of praise from the fact that it had instilled confidence in the buyers' minds concerning future sales that might be held under the Association's auspices. This point was clearly brought out by Prof. Gordon H. True of the University of California when he stated that it was better to have a satisfied buyer and a dissatisfied seller than to have a dissatisfied buyer and a satisfied work having been previously mentioned in these columns.

The following officers were elected for the ensuing year: Henry Wheatley, president; A. H. Smith, vice-president; E. W. Westgate, secretary-treasurer; Dan McCormick, Gordon H. True and Prof. Jenkins, directors.

Outside Breeders Speak at Banquet.—After disposing of the business at hand the meeting was adjourned to reconvene at a downtown hotel where an excellent banquet was held in connection with practical speeches given by several of the most prominent draft horse breeders in the United States, who were in attendance at the Exposition show.

Without exception the speakers were high in their praise of the work of the California association in promoting the county colt show, explaining that this factor is stimulating the breeding and feeding of purebred draft horses in the Eastern States more than any other single thing.

John Truman of Bushnell, Illinois, related the accomplishments of the

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Davis, California

Breeders, Importers and Exporters of Percherons, Belgians, Clydesdale, Shires, Coach and Hackneys.

We have the largest exhibit of Horses at the Panama-Pacific Exposition Horse Show of any breeder or importer in the United States.

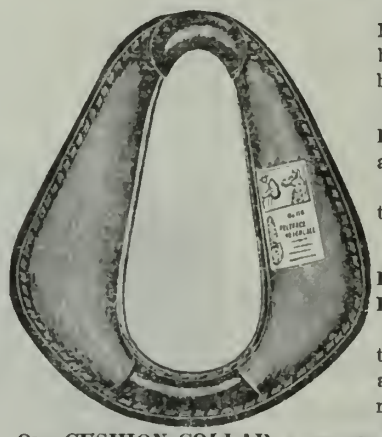
55 Head---all Ages---all Classes

Visitors cordially invited.
Barn 2, P. P. I. E., San Francisco.

We have at all times the largest stock of horses and can sell more Genuine Horse for the money.

If you need a good stallion in your locality, let us know.

BEWARE OF POORLY MADE HORSE COLLARS



More shoulders are being ruined by poorly-constructed collars than by the work the animals are doing.

W. DAVIS & SONS' FELTFACE COLLARS are guaranteed to prevent sore shoulders.

Look for the felt at the edge of the stitching.

Made to sell as follows:

FELTFACE, medium draft, $5.00
FELTFACE, heavy draft... 6.00

If your dealer does not have them, we will tell you where they are to be had, or send direct if no dealer is within reach.

Our CUSHION COLLAR, a canvas and leather Boston Team Collar, is now to be had for $3.00.

ANOTHER GOOD SORE-SHOULDER PREVENTER

A selling agent (dealer) in nearly every town. If none in your town, Write Us. Catalogue on application.

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California's Largest Manufacturers of Harness, Collars, Saddles.

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DEALER IN REGISTERED AND PEDIGREED

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Gaited Kentucky Saddle Horses

Largest importer in the United States. Stock sold under the very best possible guarantees, and with terms to suit purchasers.

county colt shows held at his home where 600 head are shown each year and the attendance ranges from 10,000 to 20,000 people. This colt show has been established but a few years, yet it is largely through its influence that several small breeders have come into national prominence, one of the prize winning mares at the Exposition show having come from the farm of a breeder near by.

Wayne Dinsmore, secretary of the Percheron Society of America, also spoke in glowing terms of the value of a colt show to a community, stating that their educational value could not be equaled.

Mr. Dinsmore pointed to the necessity of breeders learning to feed, as well as to breed; for in his opinion the call upon American breeders will not only be national but international in the course of the next decade, and this trade will demand well developed horses which can only be obtained by judicious breeding and feeding.

Samuel Bell, president of the American Belgian Horse Ass'n, talked on Draft Horse Breeding, stating that from his limited knowledge of California, our climate here is ideal for the development of lots of size, quality, and clean legs, the all-essential factors in heavy horse breeding.

Horse Prices Increasing. — Mr. Bell commented on the change that has resulted in America in draft horse breeding since the starting of the present European war, saying that prices for American bred animals have advanced almost half since a year ago last August. A gratifying thing, according to the speaker, is that breeders' record associations show that American breeders are keeping their mares in foal better than ever before and are developing and showing more young animals than ever before.

Unless a mare is good enough to reproduce her kind she should not be purchased for foundation purposes. This, thinks Mr. Bell, is easier to accomplish now than ever before because of the fact that there are more breeders who have gone through the preliminary work of selection and the new breeder gets the benefit of that work. It is necessary to have a good foundation for the additional reason that stallion buyers have been educated up to higher standards than they formerly demanded, and as a result of more experience are more critical.

Mr. Bell thinks that too many breeders keep their best mares in too high flesh. He believes a brood mare, whether she be a prize winner or not, should be worked, not too hard, but sufficient to give her the requisite amount of muscle. A breeder should know for a certainty that each mare is in foal. She should be tried regularly till she will no longer take the stallion. This will make a big increase in the number of foals annually.

Sell Colts at Three Years.—Pure-bred colts should be good enough to sell as three-year-olds, as most buyers prefer to develop the stallion according to their own views. This cannot be acocmplished when the breeder keeps the stallion till he is five or six years old.

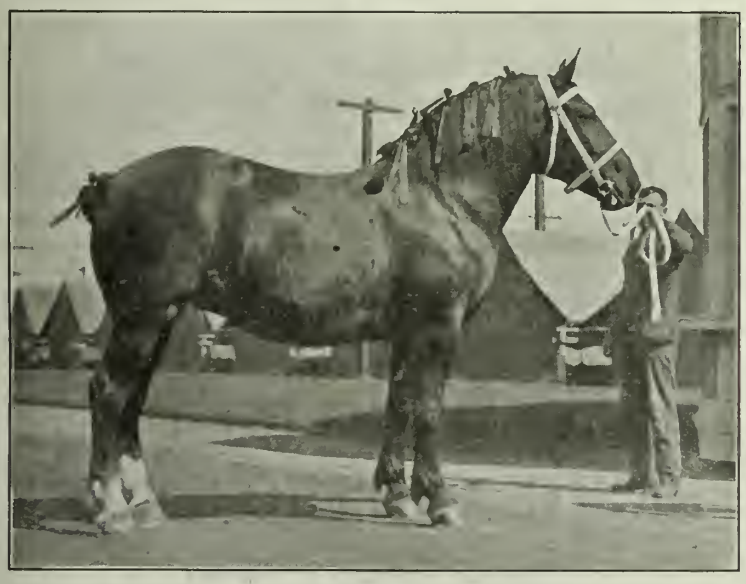
The horse breeding business has been abused in the past, according to Mr. Bell, and crooked work has caused people generally to distrust horse sellers. This will be overcome as small breeders become more common, for they will conduct the business the same as all other breeding enterprises are conducted, cultivating confidence and valuing a good reputation above all else.

Speaking of the horse and his relation to agriculture, Dean C. F. Curtiss, of the Iowa State College of Agriculture, drew a convincing conclusion of the need for more horse power on the American farms from the last census figures of Iowa population and agricultural production.

While the census showed a decrease in farm population in that State, it also showed material increase in farm production, it being rated as the only billion dollar state in the Union. This increase was directly attributable to the increase in horse power on Iowa farms according to Mr. Curtiss, that State being noted for its number and quality of horses.

A one horse power farmer can only produce a sufficient amount of foodstuffs to take care of himself, while the six or eight horse power farmer is the one that the nation depends upon for its living. For that reason Mr. Curtiss believes there is an absolute need for additional horse power on the farms of this country.

Like Mr. Bell, he believes that California should be a breeding State second to none. He pointed



MANON 105936.
Senior Champion Percheron mare, Panama-Pacific Exposition. Foaled 1912. Owned in California. Splendid foundation stock in a splendid state.

L. M. Monsees. N. A. Monsees. D. O. Monsees. Kalo Monsees.

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Remember our 37th **ANNUAL AUCTION SALE,**

TUESDAY AND WEDNESDAY, MARCH 7 and 8, 1916.

100 Head of High-Class Registered **Jacks** and **Jennets** will be sold to the highest bidder. If interested, write for fine illustrated catalogue. Visitors always welcome at the farm.
BE SURE TO SEE OUR SPLENDID SHOWING OF FINE ANIMALS AT THE PANAMA-PACIFIC INTERNATIONAL EXPOSITION, BARN 5.

Paramount Stock Farm

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Home of the Undefeated International Champion Stallion Farceur No. 7332 (72924).

Percherons Belgians Shires

Over 1000 prizes won at the leading shows.
Strictly High-Class Draft Horses at Lowest Prices.

ONE DAY'S WINNINGS AT THE PANAMA-PACIFIC INTERNATIONAL EXPOSITION:

On the first day's judging of Belgians were were awarded Grand Champion and Junior Champion Stallions. First, Second, Third and Fourth on Get of Grand Champion in Yearling Mare classes. First on Stallion foaled by Grand Champion, and First on Mare foaled by Grand Champion.

EXHIBIT: BARN 6, CENTER AISLE,
PANAMA-PACIFIC INTERNATIONAL EXPOSITION.

to our past leadership in the development of racing horses and gave our feed and climate credit for a great deal of such achievements, saying that he had visited the farms where some of our fastest horses were bred and raised and that he could see no reason why heavy drafters of equal quality could not be bred there.

Heavy horse breeding will not be carried on so extensively by large breeders in the future as by smaller ones, thinks Mr. Curtiss, because good heavy horses require care, good feed, and a moderate amount of work, which the small breeder is in the best position to give. In California as in Europe the best horses will come from breeders with eight or ten brood mares. This condition is already assuming importance in Iowa, where the State breeders successfully compete in all classes with the importers and outnumber them eight to one.

Each speaker of the evening dwelt at length on the good work that can be accomplished by the California Draft Horse Breeders' Ass'n and advised every breeder and stallion owner to get behind the association both morally and financially.

Notes from the Breeders. — You want sound bone rather than big bone in horses' legs according to A. G. Soderburg, Clydesdale breeder of Osco, Ill.

Purebred Percheron mares and a stallion are worked like common horses on the farm of H. G. Learned of Stockton.

Beginners in purebred horses ought to buy a mare or two at first, of the breed of the best purebred stallion in the neighborhood, acording to O. H. Brandt, Clydesdale breeder, of Shellville, Sonoma county. There is too much risk for a small farmer to buy a stallion.

Poor farmers breed to scrub stallions to save a $10 fee, though a gelding colt from a purebred stallion is worth $50 more than the one from a scrub.

Belgians stand long railway journeys and are ready for work on arrival, according to a Belgian breeder.

There were $88.66 in the treasury of the Cal. Draft Horse Breeders' Ass'n Sept. 1 as reported by Secretary J. I. Thompson of University Farm.

Iowa is said to import and breed 44 per cent of all the Belgian purebreds in U. S.

Ohio, Indiana, Illinois, and Iowa are the leading draft horse States according to Pres't Samuel Bell of the Belgian Importers and Breeders' Ass'n. Iowa and Indiana are breeding more Belgians than any other breed.

What California needs, according to Wm. Crownover, of Hudson, Iowa, owner of the grand champion Belgian stallion at the Exposition, and Henry Lefebure of Fairfax, Iowa, owner of the reserve senior champion Belgian stallion, is for a bunch of farmers to organize themselves, appoint a committee to visit purebred breeders, select a fancy stallion of $1000 to $18000 for the bunch, and all the purebred mares the individuals want to buy, saving half of the cost and getting the animals from reliable dealers whose establishments back their guarantees. This reinforces the stand repeatedly taken by Henry Wheatley, Shire breeder of Napa.

In Belgium a large percentage of the purebred horses were, before the war, bred by farmers who worked 10 acres with one mare. If she failed to get with foal, they counted half their year's profits lost.

Two purebred mares could work 40 acres in California, according to H. Lefebure, and have two purebred colts clear profit. He says that mares should be worked not unreasonably, until the foal is dropped. Fat condition is desirable if the weather is not too hot and if the flesh is hardened by exercise.

America will ship thousands of drafters to Europe after the war, according to Samuel Bell of Wooster, Ohio. He says geldings are selling at $600 in England now. He saw 5000 in Chicago a few days ago ready to go to war.

When the war is over the Belgian government will be after the Exposition grand champion Belgian stallion and will pay $50,000 for him, according to Wm. Crownover of Hudson, Ia.

A stallion of good constitution and fair flesh can breed two mares a day through the season without damage, according to a well known breeder who expects to increase the number of mares bred from his best stallion by using the artificial capsule system.

An inch of meat over the ribs indicates good sire breeding conditions in a stallion if that meat has been put on in connection with plenty of exercise in a pasture.

Soft hoofs which flatten out on city streets are a matter of breeding rather than raising such horses on lowlands according to a breeder who points to the fens and lowlands on which the Shire and Belgian breeds have been developed.



CLYDESDALE STALLION.
The aged Stallion Class of Clydesdales was well filled.

LefebureBelgians

Largest collection of Belgian Draft Horses in America. 115 Head on Hand. Horses in 15 different pastures.



Anna Du Balcan 3044, Grand Champion at Panama-Pacific Exposition.

We win more prizes at Iowa and Minnesota State Fairs every year than any other Exhibitor.

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Anna Du Ba'can, Grand Champion Mare

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STOCKTON, CAL.

EXPOSITION DRAFT HORSE HONORS AWARDED.

(Continued from page 337.)

about, that the ribbons were finally awarded. American-bred horses made a splendid showing as compared with imported stock, and California owns a goodly proportion of them.

EXPOSITION DRAFT HORSE AWARDS.

(Continued from page 339.)

Dunchurch Baronet, by Wm. Crownover; Neuadd Hillside, by Jack London.

Stallions 3 years and under 4: Royal Patch, shown by Truman's Pioneer Stud Farm; Blackhawk Barn King, by Easton and Ward; Nailstone Boxer, by A. C. Ruby; Wrydeland's Surprise III, by Truman's Pioneer Stud Farm; Witchford Albert, by Easton and Ward.

Stallions 2 years and under 3: Royal Friar, shown by Truman's Pioneer Stud Farm; Royal Moors, by Truman's Pioneer Stud Farm; Columbia Model, by A. C. Ruby; Eureka Menestrel, by Truman's Pioneer Stud Farm; Sylvia King, by A. G. Soderberg.

Stallions 1 year and under 2: Forage Premier, shown by Truman's Pioneer Stud Farm; George B., by A. C. Ruby; Blackhawk Gay Lad, by Easton and Ward; Serven's Hengist, by Truman's Pioneer Stud Farm; Blackhawk Minstrel, by Easton and Ward.

Stallion Foals: Salvador Conqueror, shown by Henry Wheatley; Blackhawk Mystery, by Easton and Ward; Blackhawk Ring O Bells, by Easton and Ward; Blackhawk Rising Star, by Easton and Ward; Salvador Banker, by Henry Wheatley.

Mares 4 years old and over: Beeby Judy, shown by Truman's Pioneer Stud Farm; Flowford Daisy, by Easton and Ward; Norman by Sweet Briar, by Truman's Pioneer Stud Farm; Wallington Sunbeam, by A. G. Soderberg; Queen Diamond, by Easton and Ward.

Mares 3 years and under 4: Eastern Manners, shown by Truman's Pioneer Stud Farm; Eureka Diamond, by Truman's Pioneer Stud Farm; Blackhawk Blossom, by Easton and Ward.

Mares 2 years and under 3: Hawton Bounce, shown by Easton and Ward; Blackhawk Beauty, shown by Easton and Ward; Salvador Queen, shown by Henry Wheatley; Wrdyeland's Queenie, by Truman's Pioneer Stud Farm; Salvador Champion Princess, by Henry Wheatley.

Mares 1 year and under 2: Salvador Headlight, shown by Henry Wheatley; Blackhawk Chessie, by Easton and Ward; Osco Lady, by A. G. Soderberg.

Filly Foals: Wallington Princess, shown by A. G. Soderberg; Victoria Gem, by Bridgford Co.; Blackhawk Delphine, Easton and Ward.

BELGIANS.

Following are the awards in this division in the order named;

Stallion 4 years and over: Farceur, shown by Wm. Crownover; Jules Remi, by H. Lefebure and Sons; Monarile de Heurne, by C. W. Bowers; Clarion, by Lefebure and Sons.

Stallion 3 years and under 4: Marquis, shown by Lefebure and Sons; Imperial, by A. C. Ruby.

Stallions 2 years and under 3: Bethel, shown by Wm. Crownover; Remi de Fosteau, by Lefebure and Sons; Jules Remi II, Lefebure and Sons.

Stallions 1 year and under 2: Stevenat, shown by C. W. Bowers; Harold, by A. C. Ruby; Jules Remi, by Lefebure and Sons; Villa, by A. C. Ruby.

Mares 4 years and over: Anna du Balcan, shown by Lefebure and Sons; Civette, by Wm. Crownover; Paula de Lens, by Lefebure and Sons; Abbisse, by James Edson; Belle, by A. C. Ruby.

Mares 3 years and under 4: Anette, shown by Lefebure and Sons; Juno, by A. C. Ruby; Anette, by Lefebure and Sons; Dyle, by A. C. Ruby.

Mares 2 years and under 3: Radieuse, shown by Lefebure and Sons; Juliet, by A. C. Ruby; Mariette, by A. C. Ruby.

Mares 1 year and under 2: Lista, shown by Wm. Crownover; Salome, by Wm. Crownover; Dinette, by Crownover; Rosette by Wm. Crownover; Radieuse, by Lefebure.

Filly Foals: Paramount Lola, shown by Wm. Crownover; Nonette, by Lefebure and Sons.

Get of one sire: Get of Farceur, shown by Wm. Crownover; Get of Marquis de Pouly by Lefebure and Sons; Get of Farceur, by Wm. Crownover; Get of Fortin, by A. C. Ruby; Get of Jules Remi, by Lefebure and Sons.

Produce of dam: 1st and 3rd, Wm. Crownover; 2nd, Lefebure and Sons.

Stallion and three mares: 1st, Wm. Crownover; 2nd and 3rd, Lefebure and Sons; 4th, A. C. Ruby.

Stallion and 3 mares, 2 years old or over, bred by exhibitor: 1st, Wm. Crownover; 2nd, 3rd and 4th, Lefebure and Sons.

Five stallions owned by exhibitor: 1st, Lefebure and Sons; 2nd, A. C. Ruby.

Three mares any age owned by exhibitor: Ist, Lefebure and Sons; 2nd, Wm. Crownover; 3rd, A. C. Ruby.

Senior Champion Stallion: Farceur, shown by Crownover.

Reserve Senior Champion: Jules Remi, shown by Lefebure.

Junior Champion Stallion: Bethel, shown by Crownover.

Reserve Junior Champion: Stevenot, shown by Bowers.

Grand Champion Stallion: Farceur.

Senior Champion Mare: Anna du Balcan, shown by Lefebure.

Reserve Senior Champion: Paula de Lens, shown by Lefebure.

Junior Champion Mare: Lista, shown by Crownover.

Reserve Junior Champion: Salome, shown by Crownover.

Grand Champion Mare: Anna du Balcan.

Reserve Grand Champion: Lista.

CLYDESDALES.

The following awards were made in the Clydesdale division by J. W. Wheaton, in the order named, the groups and championships not having been decided at this writing:

Stallions 4 years and over: Charter Oak, shown by Jas. Van Etta, General Davis, by South Bros.; Come Again, by A. G. Soderberg; Butterfield, by A. G. Soderberg; Massasoit, by A. G. Soderberg.

Stallions 3 years and under 4: Enterprise Pride, shown by South Bros.; Scottish Mint, Bobbie Burns, by A. G. Soderberg; Baron Montague, by Kansas State Agricultural College; Famous, by John Painter.

Stallions 2 years and under 3: Hope's Pride, shown by A. G. Soderberg; King's Emblem, by Jas. Van Etta; William Woodmac, by A. G. Soderberg.

Stallions 1 year and under 2: Baron's Prince, shown by A. G. Soderberg; Alworthy Baron, by Jas. Van Etta; King's Baron, by Jas. Van Etta; Buster, by John Painter.

Stallion Foals: Merbra, shown by O. H. Brandt; Sir Lovat, by O. H. Brandt.

Mares 4 years and over: Lady Caliph, shown by Jas. Van Etta; Winsome Princess, by A. G. Soderberg; Marjorie, by Jas. Van Etta; Jean Morrison, by O. H. Brandt; Lady Marcus, by O. H. Brandt.

Mares 3 years and under 4: Lady Stewart, shown by W. V. Hixson; Osco Beauty, by A. G. Soderberg; Mona, by John Painter; Madge, by John Painter.

Mares 2 years and under 3: Osco Darling, shown by A. G. Soderberg; King Norman's Beauty, by South Bros.; Lovely Pass, by A. G. Soderberg; Honora, by Jas. Van Etta.

Mares 1 year and under 2: Jasamine, shown by A. G. Soderberg; The Queen, by Jas. Van Etta; Colantha, by A. G. Soderberg; Trilby, by C. W. Bowers.

Filly Foals: Enterprise Queen, shown by South Bros.

Dunham - McLaughlin Company

OAKLAND, CAL.

As Usual, Vastly in the LEAD

AT THE GREAT PANAMA-PACIFIC INTERNATIONAL LIVE STOCK SHOW the past week our three-year-old Stallion MARTINEUX and two-year-old Stallion NOBOB each won a championship. We also won the championship for BEST FIVE STALLIONS, any age; and the GRAND PRIZE for the BEST TWELVE STALLIONS, any age.

Mares Owned and Sold by Us Made Practically

A Clean Sweep

in the

Percheron Mare Classes

as follows

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CICELY, Reserve Junior Championship

OAKLAWN QUEEN won a Championship for the best American-Bred Mare

CHAMPIONSHIP for the BEST THREE MARES, any age

CHAMPIONSHIP for the BEST TEN MARES, any age

CHAMPIONSHIP FOR STUD OF STALLION AND THREE MARES

THIS EXTRAORDINARY SHOWING WAS MADE IN COMPETITION WITH ALL THE EASTERN IMPORTERS AND BREEDERS, AND WE WON MORE PRIZES IN THE REGULAR CLASSES THAN ALL OUR COMPETITORS COMBINED.

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W. H. SCHRADER - Advertising Manager
D. L. SCHRADER - Subscription Manager
R. E. HODGES - - Assistant Editor
J. C. LOOMIS - - Assistant Editor

California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at 5 p. m., October 5, 1915.

STATIONS	Rainfall Data: Past Week	Seasonal To Date	Normal To Date	Temperature Data: Max'm	Min'm
Eureka	.02	.37	1.74	66	46
Red Bluff	0	0	1.04	92	56
Sacramento	0	.01	.50	92	54
San Francisco	0	.01	.40	84	50
San Jose	0	.04	.48	90	46
Fresno	0	0	.40	94	52
Independence	0	.10	.37	88	46
San Luis Obispo	0	.01	.59	78	46
Los Angeles	0	0	.11	84	54
San Diego	0	0	.11	72	56

THE WEEK

This issue of the Paeific Rural Press is largely moved by horse power. We have so many agrieultural uses to serve, in the widely diversified farm industries of this all-embraeing State, that we find it neeessary, now and again, to emphasize eaeh by hitehing our publieation-eart to it, and go rushing forth into the public eye by the inherent motive power of it. This may bring us out some day impelled by the "hog-motor," but that will be quite in harmony with our purposes, for the hog is now one of the great motive powers in the development of California agrieulture—and Guilford is its prophet. But of that at another time: we are now differently drawn and will not attempt to harness the pig.

Our pages elearly show how absorbing of public interest the horse eontinues to be. We say "eontinues to be" beeause it must be admitted that in the public mind, at least, the horse has been put upon the defensive against other self-moving organisms, and eurrent public thought is apt to eonsider that this is something new and possibly disastrous to the noble animal. Wiser people know, of eourse, that the horse was born into the history of civilization, fighting for his right to rule among motive-animals. In this raee for the right of superlative serviee to mankind, the horse has, in the eourse of his history, distaneed the ox, the ass, the eamel, the elephant, the dog, the deer, and all other animals which have essayed to be "beasts of burden." Some of these are stronger than he, some fleeter, some hardier, but none has long stood again him for the prize of widest usefulness and joy to mankind. The world has, in effeet, deelared: away with your menagerie, and has eried out with Riehard: "My kingdom for a horse." And the outeome of it is that in 1912 the world had 101,346,520 horses and 8,215,564 mules in its serviee, while all other draft animals eombined did not relatively number enough to be eounted, from a world point of view.

Always Attacked, but Never Beaten.

And it is not alone over all his fellow-possessors of red blood that the horse has prevailed. His plaee in the heart of man has been menaeed by all kinds of eontrivanees of wind, steel and steam. In all sueh aehievements of inventors for transportation of men and eommodities, timorous horsemen have feared disaster to their equine industries, but sueh is the adaptability and availability of the horse to the work and the pleasures of mankind, that eaeh shift in the methods and ideals of draft and transportation has but increased the demand for horse-labor and the wealth whieh man has invested and ereated in the horse. The reeord of the United States in these lines is signifieant:

	Horses. Number	Value.	Mules. Number	Value
1880	11,202,000	$ 613,297,000	1,730,000	$105,948,000
1890	14,214,000	978,517,000	2,331,000	182,394,000
1900	18,267,020	1,510,890,000	2,404,000	334,681,000
1913	20,567,000	2,278,222,000	4,386,000	545,245,000

Thus it appears that, roughly speaking, horses have doubled in numbers and tripled in value during the last 35 years, and mules have done better than that. And this third of a century ineludes the most sensational increases in railway building; ineludes also the whole period, praetically, of velocipedes, trolley ears, automobiles and motor trueks. In faet, if you look into statisties more elosely, you will find out that sinee 1867, and probably mueh longer, horses and mules have never taken a single step backward, but have gone forward, year by year, to the doubling and tripling eited above. What, then, is the matter with the horse? He is always on the defensive and yet always wins his way! World-paeifiers should drop the dove; the horse is the great exemplar. He is never aggressive and yet always vietor.

Evolution of Self-Movers.

No doubt the designers and manufaeturers of automobiles are humanly disposed to aeeept worship for what the general publie is apt to eonsider originality in their ereations. One who looks more deeply into things ean elearly see that the whole raee of motor-ears, from eyele to rubber-neek, is patterned after the horse, and the furniture with whieh generations of men have equipped him. Shamelessly they have appropriated all that has ever been made in the line of vehieles, from the shambling, solid-wheel eart of the Assyrian, whieh nearly shook the gilding off the ark of the eovenant, to the ear of Juggernaut of the Hindus, whieh had a erushing eapaeity even greater than that of a modern sight-seeing outfit. And not eontent with stealing everything that was ever made by man for motor-animals, they have vainly tried to rival the horse himself in his wonderful adaptation of forms to the uses he has had to meet. The raeing ear is but a eoarse imitation of the raeing horse; the mighty motor-trueks, with its weight and broad wheels for ground-purehase, is a elumsy reproduetion of the skillful building of the draft horse—while the latest in trueks, the independent motor in eaeh wheel, is nothing more than the horse has had in all his feet from the beginning. In all matters of style, ornament and eost, the motor-ear designers have stolen lines from the horse and been beaten by him. None of their varnish equals the gloss of the roadster; none of their airiness of body approaehes the praneing of the saddle-horse, while the very best of their rut-bouneing is not a mark to the sublime uplift of the bueking broneho! As auto-mobiles, they fall far short of the horse, for he ean move himself to the grazing whieh gives him new power, while the motor-ear is dead as Adam when its tank is empty. Therefore, we say that stealing and turning the war-munitions of the horse against him has availed nothing in his suppression. Every time those interested in meehanieal auto-mobiles have made a drive against the horse, the world has ealled for more horses.

Lessons of the Conflict.

There are, of eourse, a few things whieh produeers of horses should be learning from their enemies who seek world-empire for their substitutes for horse power. Fortunately, the horse has been bred for generations for speeial purposes, and there is now available a vast treasury of prepoteney toward speeifie forms, temperaments and aetion whieh eonstitute adaptation and efficieney in the horse for the various needs and desires of men. In the manufaeture of automobiles there is eeaseless effort to eontrive models whieh shall be truer to needs, desires and faneies of purehasers and there is wonderful appreeiation among them of the suitability of designs and materials toward these ends. On the other hand, too many who are growing horses on farms are eontent with anything whieh has four feet on the ground and two ears in the air. If they manage also to get two feet in the air, high as the ears are, they are apt to congratulate themselves for enelosing a lot of spirit in the animal! The greatest handieap the horse has had to earry, all through his warfare against substitutes, has been the stupidity of man. Culling out from the teams brutes, too viеious for any human use, to serve as dams for more brutes of added viеiousness; aeeepting as sires mongrel males whose usefulness eonsists only in the power of proereation, and even that a eurse to its offspring; negleet of proper nourishment, kindly eare and training, man's most influential arts in the ennobling of domestie animals for his uses; the praetiee of immoral, jockeying deeeptions in horse-trading, whieh should be one of the highest, purest phases of agrieultural eommeree—all these are still too widely praetieed and they prove, beyond all question, that the worst enemies of the horse are, as it were, those of his own household. And yet the horse goes steadily, rapidly forward in the world's business and is now, owing to the reduetion of stoek for world's warring, at the beginning of a period of large demand and higher priees, probably, than ever before in the world's history.

What of This for California?

Very mueh, every way. California is, by growth-favoring elimate for animal and its forage produet, the plaee whenee the best horses should be sought. This has been demonstrated beyond peradventure during the last half eentury. The experiences and aehievements of the pioneers afford a foundation for world-repute in horse quality and aehievement whieh is of inestimable value in establishing present enterprises—whether they be small, such as a bunch of good eolts on a mixed farm, or whether they be large, using mueh land and eapital for fine strings of seleeted sires and dams, whose progeny shall bring in hundreds of thousands in a few years. In all sueh undertakings, be they large or small, the California air-temperatures, the soils and their

plant production, constitute an unrivaled endowment. Whenever such natural advantages are matched by human intelligence and effort to breed the best of whatever type is chosen, California will be the Mecca to which blood-and-achievement-seeking pilgrims will come from all nations. But it is a business in which money must be put to take out money. Every man who enters the business ambitiously and well, must pay his way as he can. He must reject scrub-service; he must pay what it is worth to get a share of the pure-breeding which generations of close and far-seeing men have established. Later, perhaps, if he begins in a small way, he will have a pure-bred band of his own and then he will really be in the royal game which has swelled the hearts of men for ages. When he demonstrates success with the choice agencies he is handling, he should be financed from rural credit sources at rates which will warrant him in using enough capital to work rapidly and effectively. If he has capital of his own, so much the better. This horse production will be big business in California if it is handled wisely and conservatively on the basis of the exceptional natural advantages. But remember, of course, the lesson from the motor-builders to build only that which is good for some particular thing and to use the very best materials for that purpose. No wise auto-builder would try to build a limousine for trucking nor would he use scrub steel or rubber. By the same sign, the future of California horse building depends upon having a clear idea of the form and quality of the animal to be produced and using the pure-bred of whatever type he chooses to multiply. If he has this advantage at the start he can go faster and farther in California than in any other place on earth, because though California conditions may be closely matched elsewhere there is no such place on the highway along which world development is now moving.

Improving Frosty Places.

After all we may have been wrong in our remark last week that Uncle Sam probably could not improve his bad eastern climates by taking expert climatologists from California to work in these worse places. Upon longer reflection we are disposed to conclude that something may really be done in that line. For, since our last issue, we have received a publication by Prof. Alexander McAdie of Harvard University upon which the author has inscribed this delightful sentiment: "With pleasant memories of the days when we labored together on the frost problem in that wonderful western land and that glorious climate of California." A man who can write that can never be faithless to his first geographical love. If he should live a thousand years to do good work on the Atlantic side, he would not forget his score of years of joy in the climate of California, which he understood so thoroughly and characterized so well, and whose little sins he did so much to successfully correct by his frost studies and inventions. The Harvard publication, which Prof. McAdie sends us, is entitled: "Temperature Inversions in Relation to Frosts" and is rather a high-brow undertaking—as it has to be to act well its part as a Harvard output. It will of course stand clearly as an important contribution to meteoro-physics to all who take their medicine that way. To us it is a very satisfactory demonstration that frost is not alone due to cold air that rolls in down a slope, or blows in horizontally, or to loss by radiation from the earth's surface by which heat climbs out of the area, but another and perhaps the determining factor is inversion, by which the atmosphere has a way of turning upside down under certain conditions—thus taking away from us the warm lower side and slapping down on us the cold upper side, for which aviators put on their overcoats. Of this inversion Prof. McAdie demonstrates two things: first, that it is controlled by the frost-finding devices which are so successful in California; second, that the air gives signs of its disposition to loop the loop and can therefore be caught at it beforehand, and be not only predicted but prevented. When he was preparing his treatise, Prof. McAdie did not know of our proposition to improve eastern climates by selecting meteorologists trained in California to take a whack at them or he might have added another chapter, which we trust he will consider later. Having established this principle of inversion we suggest that he proceed to apply it to the bad eastern climates by recommending that they be turned upside down to see if there is not some better side to them. In California of course we could not afford to try the experiment, but it can just as well as not be done at the east, where they have nothing to lose.

Queries and Replies.

Querists must give name and address

Treatment of Vine Stakes.

To the Editor: Will you name some preservative for stakes for a vineyard that is non-injurious to the vine? Also, will you give the relative value of cedar, versus redwood, for vineyard stakes?—W. M. H., Fowler.

Common experience indicates that redwood has no equal in durability for fence posts or vine stakes. But other available wood, even that which is very subject to decay, may be rendered quite durable by filling the pores of the wood with bluestone solution. Take vats or barrels or any other deep receptacle and partly fill with bluestone solution, at the rate of 10 lbs. of bluestone to 25 gallons of water. Stand the stakes in this and allow them to remain 24 hours. If the stakes are to be made from wood to be cut near-by, peel and point them and put them in the bluestone water at once. The solution is more rapidly taken into the tissue if it is not allowed to dry before treatment.

Sap-suckers, Borers and Coal Tar.

To the Editor: Some of my walnut trees have holes on the trunk made by birds and I am told the birds peck these small holes through the bark to get borers out of the trees and that the borers can be kept off the trees by digging the dirt away from them, two or three inches deep, and putting coal tar or asphaltum on the trunk about two feet high. Is that correct? Wouldn't coal tar kill the tree if a belt two feet wide was put on next the ground? Would the same remedy work on young apricot trees?—C. N. H., Arroyo Grande.

So far as we know, it has not yet been demonstrated why a certain woodpecker, called a "sap-sucker," digs those peculiar pits in the bark of fruit trees. We do not believe they are made to reach borers, for they are too shallow to get to them. Some have claimed that the bird likes the inner bark; others, that he digs traps for insects which like the sap and that he goes back after them. You can probably drop the idea that they have any connection with borers which injure fruit trees. As for coal tar on fruit trees, it has been used with some success against the root borer of the peach—being spread on the rough bark just below and above the ground surface. Some injury was also done to fruit trees by coal tar, and recently asphaltum Grade D has been freely used and reported harmless at least to old bark. But this treatment for peach root borer has no bearing on the borer question which you have in mind. The peach root borer is not widely found in the state. The flat-headed borer is the one generally found in stem and larger branches of fruit trees of which the bark has been bruised or sunburned. To escape this insect do not use coal tar, asphaltum or any other black substance, but use whitewash which reflects heat and prevents sun-burn. This is good for any kind of a tree.

"Rose Rust" on Raspberry.

To the Editor: I am sending raspberry leaves, and wish to know if there is anything that we can do for our vines. This rust, or whatever it is, first made its appearance in the spring during the long rainy season, growing worse and worse. None of the first crop berries were first class, and many were very small and tasted badly—just seemed to dry up, although they had lots of water. The second crop berries are very nice now, but the vines are affected, and some of the later berries do not look right.—M. G., Santa Clara.

The yellow coating on the under sides of the leaves is recognized by the University fungologists as "rose rust" and not the common "raspberry rust," but the practical aspect of its attack is about the same. It is too late to do anything now except to cut out old canes, and gather up all old leaves and other rubbish likely to carry over spores, and burn it. Do this as soon as you have gathered the late fruit and spray the new growth which you keep for next year with Bordeaux mixture. This ought to greatly reduce the carry-over of the fungus. As soon as growth starts in the spring, and before blooming, spray again with Bordeaux mixture, to head off the early start of the rust and mildew also—for this may also be concerned in the destruction of your first crop.

Beans in Upper San Joaquin.

To the Editor: What kind of beans do best in the upper San Joaquin (vicinity of Visalia and Tulare)? What time do they plant? How many irrigations, how much, and when? Do you think the "horse beans" would make a winter growth or would the frosts kill them? —C. T. P., Alameda.

The beans chiefly grown now are pink and black eye, both of which have to be planted after frosts are over on the particular piece of land in question. The latest frost reported at the two places you name is April 11, but probably later on adjacent lower lands. Probably May 1 would do on low lands. Whether irrigation is used at all or not depends on the kind of land and how it has been handled. Horse beans will stand some frost, but may get too much.

Makes Lime Sulphur at Home.

[Written for Pacific Rural Press.]

Home-made lime-sulphur is used on the J. B. Cory ranch of San Joaquin county because they use so much it is cheapest to make it themselves. It is preferred to either oil or Bordeaux sprays because it does the work of both with one application, though the oil sprays are necessary at regular intervals of a few years because lime-sulphur hardens the bark.

J. H. Davis, the foreman in charge of the ranch, says they used to use 40 pounds of sulphur, 80 pounds of the best lime obtainable, and 10 pounds of salt for a "load" of 250 gallons of spray. They now use 60 pounds of sulphur since this is the fungicidal element and might as well be made plenty strong. It is noteworthy that after cooking the mixture, there is a sediment which if left in the kettle gets hard; and Mr. Davis says that it hurts the quality of the lime-sulphur spray to hold it very long after preparation, because it is not concentrated enough in their outfit.

The lime sells at $2.00 per barrel, but Mr. Cory buys it by the carload at $1.50 per barrel of 200 pounds net weight. Mr. Davis says it is not necessary to use the best sulphur for the spray, that the cheaper brand will do just as well; but the best lime is necesary because there is plenty of finely ground rock, even in the best, to make more or less trouble by clogging the nozzles. The salt is added simply to make the spray stock, though Mr. Davis says lime-sulphur has done its work if it stays on 24 hours.

Simple Equipment.—The outfit consists of 3 or 4 iron kettles set on brick foundations so that fires may be built under them if desired. Nearby is a high, wooden framework supporting three or four wooden troughs in which the lime is slaked and mixed with the salt. All of the sulphur is put into the kettles which contain hot water and is stirred five minutes, then half of the lime is added and it boils up at once. If too obstreperous, they throw on a little cold water. The mixture is allowed to cook until it is pretty dark color, then the slaked lime and salt from above is added. The lime and lime-sulphur are run through four different screens before they enter the spray machine tank, to filter out whatever small particles may be present.

YELLOW MELILOT IN ORANGE ORCHARD.

To the Editor: The articles on winter cover crop lately published in the "Press" have been of interest to me because the experience related in them checks exactly with my own.

Last September I sowed the yellow-flowering melilotus in my Valencia grove and also among my walnut trees. I sowed 12 lbs. per acre and irrigated immediately. The clover got a good start and grew continuously through the winter so that in early May I had a stand that was so thick and so high that it proved a problem to get it under ground. However, the difficulty encountered in plowing it under has proven small when compared to the benefit derived.

I found the results to be that my grove required less water during the summer on account of the lessened evaporation due to moisture-holding properties of the decaying stems and roots; better condition of the trees due to a more uniform supply of moisture and additional nourishment; a heavier and more sturdy new growth and a better texture of skin on the new crop.

This may seem to be "spreading it on a bit thick" but my deductions are not merely outbursts of enthusiasm. The credit I have given the clover is verified by the condition of my trees which have never before shown such a marked improvement in a single season. I have never before sowed a crop of clover, and the results are due entirely to the cover crop, for this has not been an exceptionally good growing year for citrus trees.

My previous experience with cover crops proved a disappointment because I tried vetch on a soil that would not support that class of plants. The melilotus clover found an abundance of nourishment under identical conditions—which further recommends it, especially where the top soil is light or of poor quality. —Correspondence.

ACTIVE SCIONS IN WALNUT GRAFTING.

To the Editor: Last year we grafted some of our black walnut trees, 4 years old, to "Eureka," in April, but only a few are growing on the graft. A neighbor of ours, who grafted some at the same time, with grafting wood which he just cut from the Eureka walnut tree, then in sap, claims to have better success than we did, having the grafting wood previously cut and preserved. Can you give us some pointers as to which is the best method of getting good results?—M. & M., Stockton.

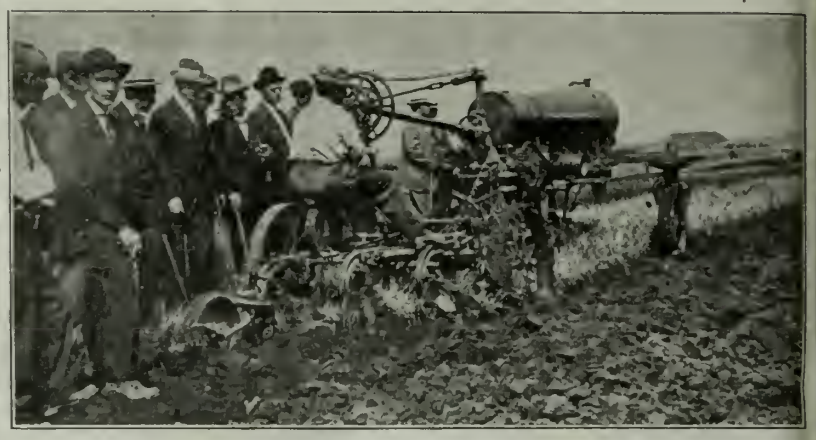
[So far as we know the prevailing practice is to cut dormant scions and keep them cool and damp until the leaves start on the stock—being careful not to let the scions get too wet during the keeping. Who has had success with scions cut during the sap flow?—Editors.]

WHICH TREES PAY?

Assistant Farm Adviser Dougherty of Ventura county has lined up about 350 walnut trees on which the growers will keep records. Mr. Dougherty takes notes on the size and vigor of the tree, the type and quality of the nuts, the methods of culture, and the relative amount of blighted nuts. The growers weigh the nuts as picked up and record the weight on a card attached to the trunk of each tree. The object of this work is to show that some trees in the orchard are "boarders," that some barely pay expenses, and that others are profitable and worthy of propagation. The citrus-growers who are practicing tree-record work in the county have already begun to work-over some trees, and it is hoped that the result of this walnut-record work will show the desirability of the walnut growers doing likewise.

On Sept. 30 the Arbuckle Almond Growers' Exchange shipped a carload of almonds to Portland, Ore.

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CANNING PIMIENTOS.

To the Editor: Please advise me through your valuable paper how to can pimientos. We have more on the vines than we are able to sell fresh.—Subscriber, Porterville.

[Answered by Prof. W. V. Cruess, University of California.]

We have had no experience in canning pimientos. I will give you, however, an extract from Dr. Bitting's bulletin on canning and trust that this will aid you in canning the pimientos.

"The whole chili is peeled and the Mexican method consists in first roasting the peppers. Mr. Ortega devised special apparatus for doing this work so that the operation is not only continuous but the chilis are kept in motion so that burning will not take place. As soon as the chilis are cool, the skin and stem are squeezed off by hand, a part of the seeds also coming away with the stem. The fleshy portion is then washed and placed in the can and a small quantity of salt or brine is added.

"The chili is also peeled by immersion in lye, but thus far the method has not been very successful. Still another way of peeling is by immersion in hot oil, the commercial method having been originated by Mr. John Bonhoff, of Los Angeles, about 1907, though it is described in a cook book of earlier date. Ground chilis are also packed. These are stemmed and then run through a grinder.

"In the factory the handling of the chili is done by Mexicans as the pungent principle is too strong for the ordinary unaccustomed American hand. When the whole peppers are used, they are folded upon themselves in the cans so as to come out whole or in large pieces. The cans are well exhausted and given a process of from 12 to 18 minutes at 212 degrees F.

The pimiento is the "sweet pepper" and should be so designated rather than by the foreign name. It is large and pear shaped, from 3 to 4 inches long, 2 to 2½ inches across at the base, and is more or less ridged; the flesh is thick and has very little pungency. For the most part, these are canned when ripe or well colored. They are peeled in the same maner as the chili, but the seeds are removed. Care is taken to fold the pepper neatly so that it may be cut across and make long strips for garnish. Salt brine and sometimes a little cottonseed oil is added. They are given the same proceses as the chili."

RICE GROWING IN STANISLAUS.

To the Editor: A great deal has been written and talked about rice culture in California, and the satisfactory results obtained in the northern part of the State seem to be beyond dispute. The San Joaquin Valley, too, seems to come in for its share of advertising through local tests varying in extent from a few acres to as high as 600 acres in the Wasco district, and I believe that certain localities in the San Joaquin Valley will prove most satisfactory, providing they solve the question of water supply. The cost of pumping water, in many instances, seems to prohibit profitable rice culture.

The object of this letter is to call your attention to a test which is being conducted under my supervision in the Modesto Irrigation District near Claustown, where we have taken a 20-acre tract, representing four distinct types of soil ranging from a sandy loam to a typical hard pan, overlaid with two to four inches of soil, for the purpose of demonstrating the possibilities of rice growing in that area, which comprises from twenty-five to thirty thousand acres of a similar type of land in the Modesto District. I was fortunate in getting a conscientious and industrious foreman to conduct this experiment, and I am frank to state that I do not believe that there is another rice plot, outside of the United States Government Experimental station at Biggs, that can compare with it from the standpoint of efficiency and care in growing a rice crop under most adverse conditions. We did not start with the work until the middle of April, on a tract of land that showed variations of from six inches to four feet in topography, within a distance of less than one-quarter of a mile and where it became necessary to contour the land on a 3-10 of a foot fall, in order to make the submersion of rice during the last stage of its growth fairly successful. At the time of this writing we have a very good crop growing and the variety of soil excellently demonstrates the respective possibility of yield. The object lesson is most impressive, and one finds in the same check yields of probably five bags to the acre on two inches of soil over the hard pan, and as high as 50 bags to the acre adjoining these spots, where the soil is several feet deep and carries some humus. I think that the Modeto test plot is one of the most interesting rice experiments in the State of California today.

W. K. Winterhalter.
San Francisco.

KILLING ENGLISH SPARROWS.

To the Editor: Will you give some advice about getting rid of English sparrows which have established themselves in places where their nests cannot be easily reached? —Reader, Fresno.

[Answer by H. C. Bryant, Economic Ornithologist, University of California.]

I would suggest that you procure from the U. S. Department of Agriculture, Farmers' Bulletin No. 493 entitled "The English Sparrow as a Pest." This bulletin discusses all of the available methods for the destruction of the English sparrow, including methods of poisoning. However, California conditions are so different from Eastern conditions that it is useless to attempt to trap the birds. Extensive experiments have been carried on here at the University in an endeavor to exterminate the English sparrow on the campus. The same sort of traps used in the East proved ineffectual, since an abundance of food is always at hand, the ground never being covered with snow. Systematic shooting, using a 22 and 32 rifle and cartridges loaded with dust shot has proved the most successful. Systematic destruction of nests during the breeding season also aids in diminishing the numbers. A combination of this method with well-directed poisoning will probably prove most effectual in your vicinity.

THOSE RAMPANT PEAR TREES.

To the Editor: R. W. Schmitz of Martinez can bring his rampant growing pear trees (See Rural Press of September 18) into bearing only by establishing the proper proportions between root and top. Undoubtedly they have a subterranean source of bountiful nourishment, and seeking to retard top growth will only result in more wood and then some.

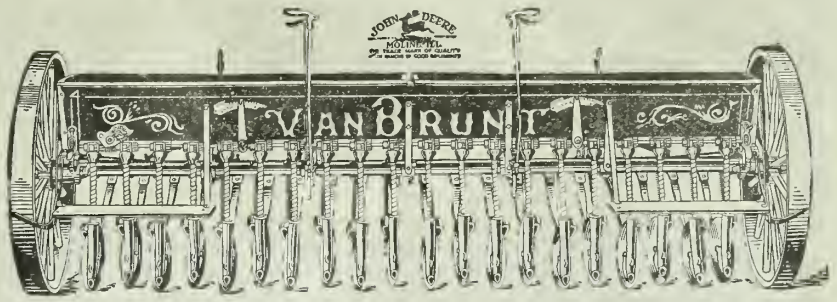
It is just as logical to seek to destroy the roots to retard growth as to shock the entire tree by off-season pruning. The tree is seeking to attain the growth which its root system warrants by throwing out excessive top. I venture to say the lateral and pendant growth is small.

Mr. Schmitz's remedy is to guide his trees and allow them to attain their full growth which is obtained by carefully thinning vertical limbs so as to let in air and light, but not too much sun in his locality. I would say take out one-half of vertical growth, preferably the heaviest; shorten laterals, one-half, and pendants two-thirds. If verticals are over four feet, cut at that point. This will leave a top in proportion to the root system. Doubtless he will have many suckers next spring, which should be rubbed off by May or before they harden. If his verticals throw out a growth of over two feet next year, thin one-half, leaving weakest and do not cut back short of three feet. The top should then be enough in excess to settle down to fruiting.

Of course, he may be put to the expense of longer ladders, but once his verticals fruit they will come out and down to meet him part way, and it is safe to say the size and quality of the fruit will be well worth going after and I prophesy if he follows this plan he will wish all his trees were as "rambunctious."

The ground on this particular patch should only be cultivated enough to keep up appearances for a year or two. **Frank Owen.**
Napa.

[That's rational.—Editors.]



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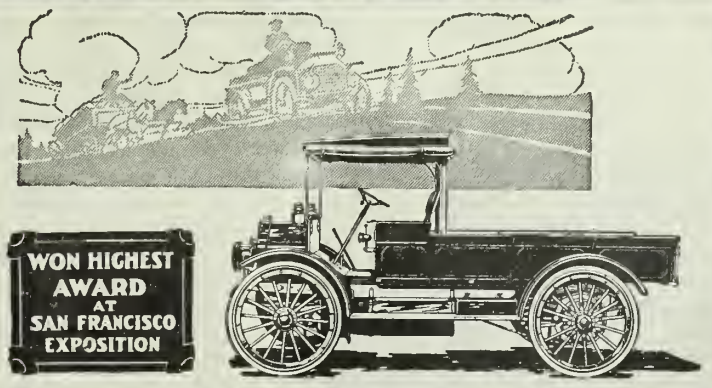
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California Citrus and Tropical Fruits.

Planters sometimes think nurserymen tell them fairy stories, but when the nurserymen talk to each other they certainly do cut out the frills. Therefore read this:

[Written for Pacific Rural Press.]

At the recent meeting of the California Association of Nurserymen the committee on citrus and tropical fruits, E. O. Popenoe, W. R. Wood and R. M. Teague, submitted the following:

The citrus industry, because of a series of unparalleled disasters extending over a period of two years (the freeze, the tariff and the war), has remained in an unsatisfactory condition. Nursery stock has been in dull demand at low prices. New plantings have largely been of lemons. One feature of improvement has been the opening up of an important new field for grape fruit in the Imperial Valley. This locality seems destined to grow a superior quality of grapefruit, in a fairly rapidly increasing quantity.

The check to citrus plantings on account of the generally low prices of fruit will lead, as it has in the past under similar circumstances, to an improved condition in the nursery stock trade within the next two or three years. Many of the smaller growers will cease operations altogether, and the larger nurserymen will temporarily shorten in the amount of new stock grown until a sharper demand leads to increased prices, and then for several years following the trade is likely to be satisfactory.

On the other hand, a feeling of increased interest has been realized by the growers of avocado trees. This valuable fruit, one of the finest foods known, is becoming somewhat better understood. The increasing number of trees coming into bearing in various parts of the state has given an added keenness to the subject, and those who have felt the need of a new horticultural development to relieve the citrus situation have given thought and investigation to the matter of avocado growing. As a result, while only a limited amount of nursery stock of this character has been grown, the amount available—at least of the best varieties—has been sold at good prices. The new orchard plantings are all small, none of them over 30 acres in extent, the average being perhaps 5 acres, but it is to be remarked that they are being made by growers of intelligence and conservatism. The belief of those best qualified to judge is that this fruit will at a day not remotely distant be planted largely in Southern California and on the slopes or in protected places in the San Joaquin and Sacramento Valleys

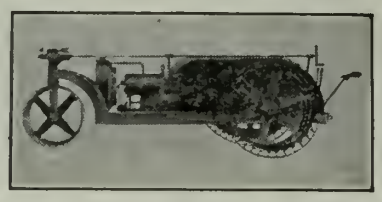
The matter of varieties is occupying the attention of growers and planters of the avocado tree. Among the trees fruiting in California several have displayed very satisfactory qualities. Those that have been considered the best are the Taft, grown near Orange, the Sharpless near Tustin, and the Blakeman at Hollywood. These are all the thick-skinned, large fruited kinds. Among the thin-skinned, small fruited varieties, the Northrop, Chappelow, Ganter and Harman seem to hold about equal place, with two new aspirants for favor, the Val del Flor and Knowles entering the lists. These types are hardier than the large fruited, thick-skinned varieties, but are by many believed not to be so suitable for commercial growing.

These varieties will be added to and subtracted from in the future. The standard varieties of 25 years hence may not now be known, but some of the varieties named are so good that commercial plantings of them will undoubtedly always be satisfactory and profitable. Because of much variation in form, size, color and texture, the number of avocado varieties will be greater, perhaps, than the number of citrus varieties.

In a paper read at the recent Fruit Growers' convention at Stanford University, David L. Crawford, professor of botany of Pomona College, criticised avocado growers for the high prices charged for trees. The fruits will remain high priced until more of them are grown, because naturally whatever a grower can get for his product he will take; and the avocado fruit is so highly esteemed that those who can afford it will buy, even at the high prices prevailing, if it cannot be had for less. Prices will only become lower as the fruit becomes more abundant; when it will bring its value as a food. At such prices it will always be a profitable fruit to grow. As to the cost of nursery trees, it may be said that avocado trees are difficult to propagate, and will never be low priced. The difficulties and work connected with budding it and the high percentage of failures will of necessity always make of it a higher priced tree than citrus trees have been. Dealings should be had with reliable, responsible, well established and successful firms. Such nurserymen are selling budded avocado trees of the best varieties only, and at as reasonable a price as the conditions warrant and permit.

It is believed by your committee that a limited but good field may be developed for certain of the minor sub-tropicals,—as, for instance, the lemon guava, which makes a surpassingly good jelly; the feijoa, which may be preserved or made into a jam of great delicacy; the passion fruit which grows here as well as it does in Australia and is there considered a delicacy of merit, being used in various forms; and if the fruits mentioned could be had in sufficient quantities to enable some preserving and canning establishment to offer them to the public, there is every reason to believe the industries would become gradually established and a reasonable amount of the nursery stock called for.

Taken as a whole, the interests represented by your committee have an outlook of quietness for the immediate future, with thereafter, we believe,—when general business conditions are again normal,—of a reasonable and steady increase in volume and price.



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We have seed for sale in quantities from 1-lb. to car lots. It is the 1915 crop—the best to be had at any price, anywhere. We have no bargains to offer you, but if you are interested to the extent that you want good seed at honest prices, we are on the job to the finish. For prices, samples, etc., wire or write,

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With his associates, the Redlands Heights Ranch Co., Mr. Earle has planted 15,000 J. H. Hale trees near Redlands. He says: "The beauty of the J. H. Hale is, after it has developed sugar and quality it will hold that quality twice as long as any other peach I know. It would go to European markets from California if packed right."

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50 BUSHELS OF INDIAN CORN PER ACRE.

The increase of live stock in California will require an increase of certain kinds of feed—already there is being grown plenty of alfalfa and grain hay, but more grain to fatten and harden hogs and cattle is needed. A good deal of experimenting has been done with dry land sorghums and headed corn which adds much to the feeds, but the efforts being made to grow more Indian corn promise more than anything else in this line.

In the Sacramento as well as in the San Joaquin low lands many varieties of corn are being experimented with and some notable success secured, notably at the Vina ranch in Butte county, by Thos. Jacobs in Tulare and M. Bassett of Kings county.

Recently we had the chance of investigating a successful 600 acre experiment in corn growing on the delta in the northwest portion of San Joaquin county. The Brack tract ranch, consisting of 4400 acres under a levee of the Mokelumne river, is owned by a syndicate, of which John Cook of San Francisco and Peter Cook of Rio Vista are the moving spirits. This land has been used for years to raise barley, potatoes and beans and is very rich. The soil is made up of peat, covered with several inches of silt.

Mr. John Happe, the superintendent of the ranch, is not an experienced corn grower, but he knows how to farm, and his first effort at corn growing resulted in a yield which he estimates at 30 to 35 sacks shelled per acre, which we feel sure will produce at least 50 bushels per acre. The seed used was a yellow and white dent variety; the corn was planted from the middle of May to the first week in July and matured in 90 days.

The ground was plowed, disked harrowed and seeded. After the corn came up it was hoed once and cultivated four times. As the stalks came in tassel the field was irrigated once that the pollen would be abundant. The stalks now average from 9 to 10 feet high, three to the hill, 36x40 inches apart. As a silo crop it would easily make twelve ton to the acre. Mr. Happe says the labor cost to date was $8 per acre and he estimates the cost of husking and hauling will be about $2 per acre addtional. This means that the corn produced will cost 20 cents per bushel and worth at least 60c. Not a bad crop as a commercial proposition, and vastly more valuable to the owners if they had plenty of stock to feed it to, also a few silos to save part of the crop for that purpose.

The owners of the ranch are now figuring on going heavily into stock raising and feeding. Already they have gathered together over 300 head, besides some hogs and sheep, silos are being investigated with the idea of saving some of the feed now practically lost.

With the right kind of seed and one irrigation the soil on the delta lands will produce corn equal to the corn belt of the central States. If only a small part of the river bottom lands of the great interior valleys were planted to corn, California would soon take rank not only as a corn producer but would turn off such quantities of fat steers and hogs that we would no longer have to import meat, but be able to produce at a price that will allow packers of the Coast to enter into competition with the world.

A better seed corn is needed and we have confidence that some way will be found to secure it.

CLOVER FOR HARD ORCHARD SOIL.

[Written for Pacific Rural Press.]

Alfalfa in many orchards of Corning proved highly desirable, and not only of no injury to the trees and crops, but of distinct benefit, were irrigated thoroughly at not more than 10-day intervals.

This led an olive grower owning a young 6-acre orchard on land "barleyed to death and set too close with trees" to hire F. P. Stratton to level and check the orchard last August for the purpose of sowing alfalfa. But Mr. Stratton wanted to sow sweet clover, for he says it penetrates the soil much quicker and loosens it up for irrigation.

"I have seen sweet clover roots penetrate 18 inches deep the first season, while alfalfa takes the first year to get started."

Sweet clover has as long a growing season as alfalfa and is a persistent self-feeder, yet after two years' growth it dies down and is not nearly so much trouble as alfalfa to kill out if you want to. Anyhow, where you want alfalfa on soil that has run together or has formed a plow-pan, it is better to use sweet clover to prepare the soil and inoculate it for alfalfa.

It makes very satisfactory hog feed for some of Mr. Stratton's friends; and cows do not bloat on green sweet clover pasture, though they must learn to like it.

BI-SULPHID FOR BEAN WEEVILS.

To the Editor: The following experiment with carbon bisulphid was performed in the south where weevils are far more destructive than here. After hatching from eggs deposited on the young growing plant, the worms entered the green pods. The infested peas were stored in barrels as soon as shelled and plugged air tight after the bisulphid had been poured in with them. On examination, a few weeks afterward we found that the weevils had continued to multiply destroying most of the peas. None of them had died from the fumes. The cold climate of the northern states saves that section from the inroads of this pest. Winters where the above experiment was performed are slightly colder than in California, which would seem to indicate that conditions are not unfavorable here.—G. C. A., San Francisco.

[The bisulphid in this experiment was not good or not enough was used. There is no doubt of the killing power of the vapor when used aright. It has been very successfully used on a very large scale in eastern granaries and elevators. Still heat up to 150 degrees Fahr. as prescribed by Mr. Parker of Ventura in the Rural Press of September 25 may be the most available method.—Editors.]

F. A. Donner of Oakdale has been experimenting with Persian melon growing for seed for a San Francisco firm. His efforts have met with such success that next season he expects to grow the melons (which are a rare delicacy in that line) on a commercial scale.

You Don't Have to Jump Off A Skyscraper

to prove the law of gravitation—neither do you have to cross the oeean or rely upon your imagination to find out what Radium will do for your orchard or crops. We have a free illustrated book, showing and deseribing definite results obtained from using Radium ore.

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Price is a secondary consideration in buying a farm engine. What you want to know is "HOW LONG WILL IT LAST?" and "CAN I DEPEND ON IT?"

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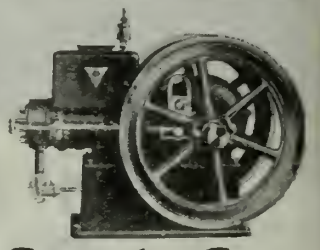
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There are more drop-forged and case-hardened parts on the Alpha engine than any other. Semi-steel cylinders and piston accurately ground to size. This means sustained power and an engine accurate in adjustment and therefore as economical after five years' use as when new.

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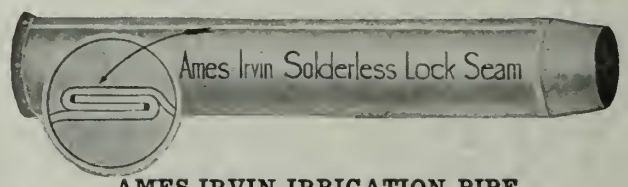
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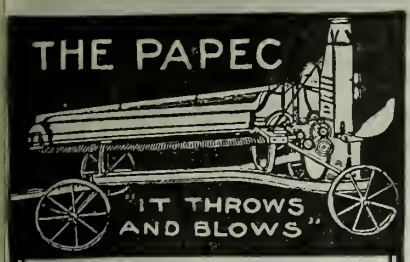
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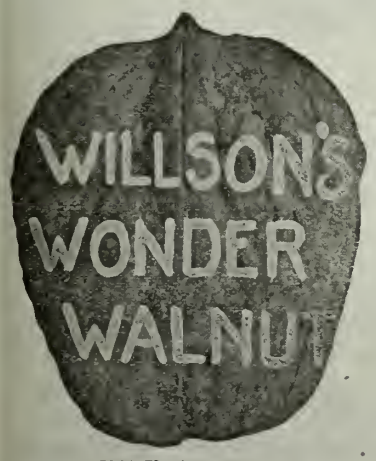


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Relations of Farmers and Bankers.

Mr. Anderson, who writes below at our request, gives important facts and suggestions drawn from his long experience both as a farmer and a banker.

[Written for Pacific Rural Press by Alden Anderson, Sacramento.]

The farmer enjoys credit from banks as anyone else would, except that if there is an advantage in favor of any one class it would be in favor of the farmer who kept, for at least a portion of the year, a fair bank account and who needed assistance only for what is properly called "crop moving time."

The up-to-date banker in an agricultural community would much prefer to see the money he loans applied to the active development of property and bringing forth of crops that will redound to the benefit, not only of the producer thereof, but to the whole community.

In such districts in California there is no dearth of opportunity for loaning money safely at good rates of interest. In other words the demand for money for legitimate purposes thus far has always equalled and sometimes exceeded the supply. Hence most bankers endeavor to loan their money out in such a way as to be most beneficial to the bank, either in developing new business or that will bring reciprocal relations that will assist in building up their business.

There are unfortunately some farmers that seem to think that bankers connive and scheme to take advantage of borrowers' necessities in the hopes of ultimately securing property pledged as security for money loaned. Such should never be the case on the part of any banker, and never to my knowledge has such action been taken nor has money been loaned with such a consummation expected or desired.

In other words the banks are loaning money and make their profit on the interest they receive. A piece of property taken by a bank immediately depreciates in value for several reasons unnecessary to go into here and the income, for the bank from that loan, stops. Therefore, instead of the amount of money invested in the property bringing in the usual return of interest it is idle and of no benefit to the institution. No matter what may have been the disposition or desire of bankers in former days in that respect it does not prevail now, and the farmer in need of credit, whether short time or for stated periods, should be entirely frank with his banker and endeavor to show that he is worthy of credit and that he is using the money thus secured for good purposes.

Farmers are more negligent in the keeping up of their interest payments than most borrowers and this works to their disadvantage in borrowing. Under the banking laws nowadays, if a note is delinquent in interest it is soon classed as bad paper, no matter how reliable the security back of it, and after a certain period it will have to be written off from the assets of the bank. That does not mean that the bank could not enforce collection, but that they cannot carry it in the active assets of the bank; if they had too many of them they could not continue paying dividends until such items were collected.

Thus it will be seen that the non-payment of interest, if indulged in to any considerable extent by patrons, would throw the whole scheme of the bank's conduct out of alignment. It will also be seen that it is necessary for anyone having an obligation with a bank to meet their interest on its due dates promptly and they should not plan to borrow money, or to agree on a certain due date unless they will be prepared and able to pay the interest or note promptly when due. The thrifty farmer who meets his obligations promptly and does enough business with the bank at some portion of the year to make his account worth while is regarded as the very best of clients and their accounts are solicited and esteemed. No banker, if he is worthy of being called the name, will refuse credit to a farmer for the purpose of handling and moving his crops to market when they are ready even if they have to use their own credit to obtain the money.

Bankers do not solicit the use of their name as reference for anyone, but allow people to refer to them by permission and no one should refer to their banker unless they feel sure that their acquaintance with the bank has been of such a nature as to receive a prompt and unequivocal endorsement of the banker inquired of. In other words an equivocal or non-committal reply would do harm, provided the man inquired of was all right and the banker was not sufficiently qualified to answer capably and intelligently the question propounded.

In other words, a moral obligation goes with the O. K. of a man's character and financial position by a banker, and unless a man feels sufficiently sure of his standing to get a favorable declaration he should not give his banker as reference.

In regard to money for farmers' needs, people do not here differentiate enough between current needs and necessities such as money to harvest and market crops, and long term investments for the purpose of developing property. In the Sacramento Valley, where there is such a broad expanse of territory, and less of accumulated surplus, there is not at the present time as much available money for long-time investment purposes as could be profitably used, whereas short time necessities can well be taken care of. These are matters that will be adjusted and alleviated by one method and another more and more as time goes on and the farmer will find that those who are prosperous and thrifty, who have the capacity to produce and the disposition to be frank with their bankers, and who endeavor for at least a portion of the year to be of reciprocal advantage to the banker, will always have their needs well, economically, and efficiently taken care of.

Meetings under the auspices of the newly organized California Ripe Olive Association will be held in the near future at Riverside, Hemet, Elsinore, Perris, and other olive-growing districts of southern California.

The organization of the Oregon Guernsey Club was completed at the Iregon State Fair at Salem on Oct. 2. J. W. Cook was elected secretary of the association.

Alpha Combination Power Sprayer



CONSTANT HIGH PRESSURE is easily maintained with the **ALPHA AUTOMATIC PRESSURE CONTROLLER**

When desired pressure is reached the pump automatically ceases operation. The engine idles. Again resuming operation when pressure drops below point at which it is set.
Does away with need of relief valves, diaphrams, etc., which are soon put out of commission by the corrosive action of the spray material.
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Everything for the Dairy.

ANIMAL MANURE AS FERTILIZER

FRESH HORSE MANURE, COW MANURE, SHEEP MANURE

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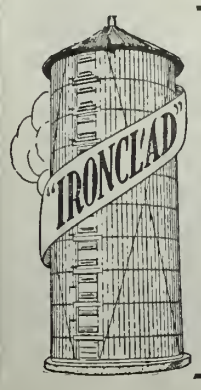
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IF WAGNER'S IMPROVED WINTER RHUBARB is planted during **October, November or December,** which are three of the best months, **Good Results should be derived by spring.** Write for **Special Price** on Plants for Fall Planting.

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Buy your lumber with your silo and get carload freight rate on both, saving 100% in freight. Send us your lumber bills for our delivered f. o. b. figures. Our prices are lowest because **we sell diect.**

Get your neighbors to use part of carload. We load each bill separately, so you will have no trouble unloading.

Pacific Mill and Timber Co.
Room 1000, FIRST NATIONAL BANK BLDG., San Francisco, Cal.

Mechanical Power on the Farm.

[Written for Pacific Rural Press.]

FLY-WEEL NEEDED TWO BEARINGS.

The No. 16 Dow double-acting pump run by a 7½ h. p. electric motor was anything but satisfactory to Dr. Robert E. Pierce of Tulare county until the pump house burned down. It was loose and pounded like a noisy rattle-trap in spite of all adjustments and fixing. But after the pump house burned down, the bearings were all rebabblted and the fly-wheel axle extended to a new bearing on a concrete pedestal, so that it now rests on both sides, lnstead of only one as before. This gives it greater steadiness and the pull of the belt from the motor does not rack the axle and wear out the bearings as before.

Since the pump cylinder is 100 feet down, the great weight of water lifted and the light weight of the fly-wheel made it hard to keep the pump going. When the extra bearing was put ln, a heavier fly-wheel, 3½ feet in diameter, was also installed to overcome this.

By an ingenious device, one rod to the cylinder descends inside the other, which is hollow, while the other is rising. The down stroke is swift, so that the upstroke always starts before the upstroke of the other rod is completed.

The outfit irrigates 30 acres of large orange trees with about 15 miner's inches of water distributed through several underground cement pipe lines. It runs from the well into two cement stand pipes in the yard where it overflows in attractive fountains before going on its more useful task.

PUMP PERMITS ORCHARD ALFALFA.

Alfalfa in an orchard is a dangerous thing for the trees unless plenty of water is available for frequent irrigations exactly when desired. Two or three days' delay in an alfalfa covered orchard means serious setback to both. But many orchardists around Corning are finding it a wonderful aid in getting enough water for the trees to soak into the soil, which used to run together on account of previous exhaustion of humus by grain farming. Ditch irrigation is not available, and could not be depended on anyway, to furnish water at just the critical time an orchard in alfalfa might need it seriously at a time of hot winds. Motor or engine driven pumps are thus necessary. F. H. Brubaker is one who has had 10 years' success letting alfalfa cultivate his orchard because water is available for irrigation every week in summer, and almost as often earlier in the season. One well has a 2 h.p. electric motor while the other has a 3 h.p. motor connected to a centrifugal pump at the surface. Since the water level goes down sometimes, he expects to put the pump down into the pit to reduce suction distance because it requires less power to force than to suck water a given distance.

WHEN THE FARMER BUYS A MOTOR.

One of the auto-agents has had an awakening on the subject of sales to farmers and is credited with these remarks:

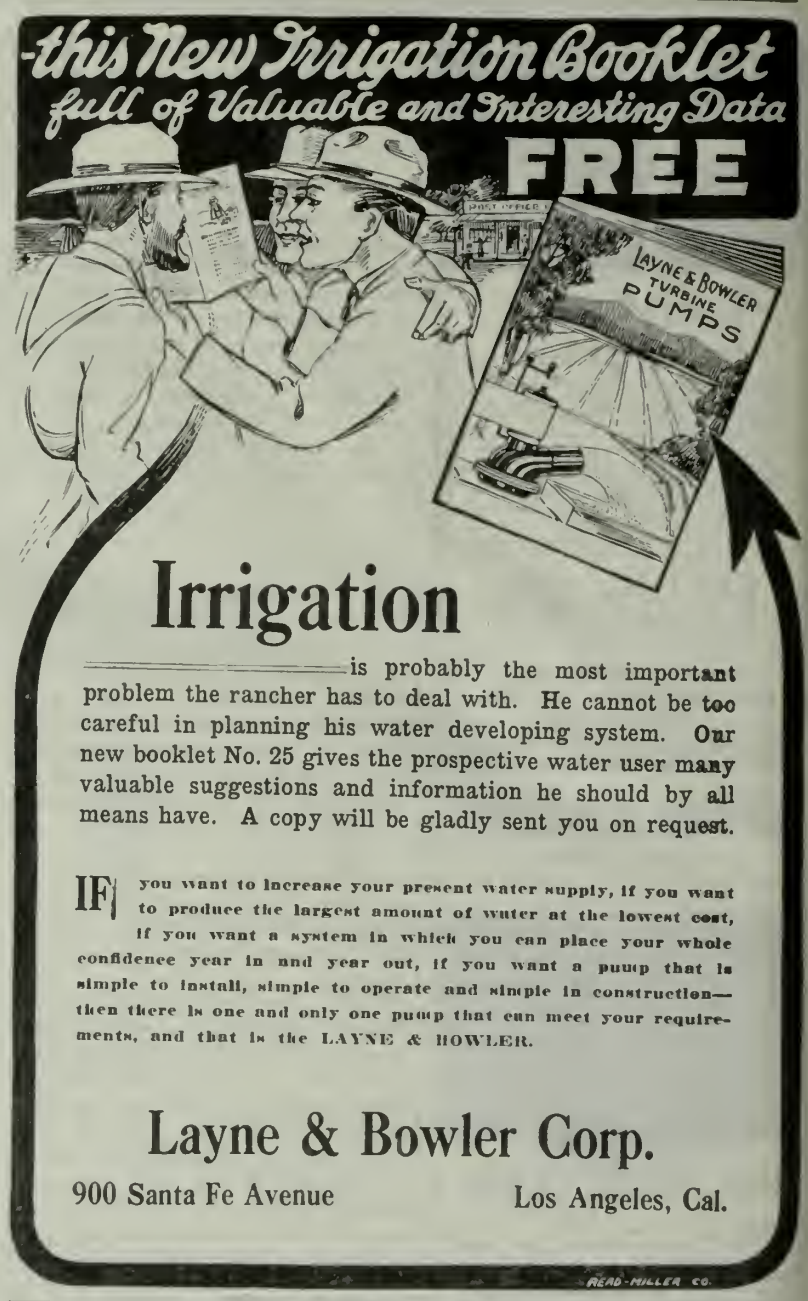
"When the farmer buys a motor car he has 'to be shown.' He doesn't take anything on say so. And he particularly searches for the hidden quality. The average city man is very strong for looks and design, but only in rare cases is he possessed of much knowledge of mechanics and then, too, he is schooled in the proposition that even if something goes wrong with his car it is only a step to a garage.

"But the countryman adopts an entirely different attitude when he buys a car. He is usually motor wise. He has been operating his farm machinery by gasoline engine and is familiar with the principle and operation of motors. He has before him at all times the thought that he must have a car that will 'take him there and back.' In other words, he will not take chances on a car that may strand him ten miles from home and three or four from help.

"He is a close reader of motor car advertising literature. In most cases when he plans buying a car he has been giving the subject thought for a year or so and reading up on it. He keeps the salesman on his toes with his questions and he demands absolute frankness."

NEEDS TRANSFORMER NEAR MOTOR.

Fresh, clean water is supplied for the large dairy on the Meadowbrook Stock Farm of Merced county by means of a 2-inch centrifugal pump direct-connected to a 4 h. p. motor set on top of the ground. It now supplies a small tank on a low tower, but will be moved to a well close to the silo to fill a 20,000-gallon tank on top of it. There will then be a 70 or 80 foot lift. The motor was recently tried at the silo well, but couldn't do the work because so much farther down from the transformer. The young man in charge of the machinery on the place thinks it will work all right when the transformer is located closer, especially since the pipe will be vertical, eliminating most of the friction.



Irrigation

is probably the most important problem the rancher has to deal with. He cannot be too careful in planning his water developing system. Our new booklet No. 25 gives the prospective water user many valuable suggestions and information he should by all means have. A copy will be gladly sent you on request.

IF you want to increase your present water supply, if you want to produce the largest amount of water at the lowest cost, if you want a system in which you can place your whole confidence year in and year out, if you want a pump that is simple to install, simple to operate and simple in construction—then there is one and only one pump that can meet your requirements, and that is the LAYNE & BOWLER.

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900 Santa Fe Avenue Los Angeles, Cal.

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THE WINSBY PUMP

Our New 1915 Type Pump



Best Pumping Model for Low Lift

Size	1 in.	1¼ in.	1½ in.	2 in.	F. O. B. Cars.
Price	$16.00	$20.00	$25.00	$30.00	Oakland

Largest Sizes at Proportionate Prices.

Complete Pumping Plants of Any Size or Type Furnished and Installed.

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Pumping machinery of all kinds and for all purposes.
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Pipe	Belting	Pulleys	Shafting	Boilers
Casing	Leather	Wood	Hangers	Steam
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GASOLINE ENGINES.

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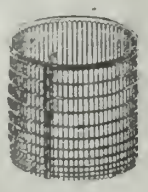
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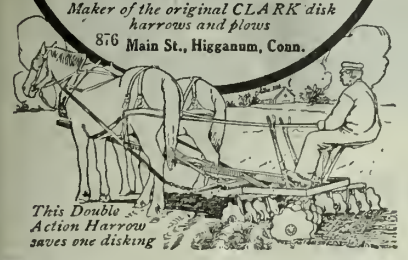
Till Deep
Give the roots a chance

You can go deep without bringing up trash, stones or manure. You can at the same time pulverize and level. For thrifty crops rely upon the *forged sharp*, penetrating disks of the

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Disk Harrow—Single or Double Action—light in draft and built for a lifetime of service. If your dealer has not the *genuine* CUTAWAY, write to us direct. Be sure to write us for our new free book, "The Soil and Its Tillage." Get your copy *now*.

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Maker of the original CLARK disk harrows and plows
876 Main St., Higganum, Conn.



This Double Action Harrow saves one disking

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of superior merit—single and double—hard red steel, or galvanized—in all sizes. Ask for Catalogue 17.

We also manufacture the famous **"American"** Surface Irrigation Pipe and Riveted Steel Pipe for **underground** use. Also all fittings for water systems, tanks, troughs, etc. Write for catalogues.

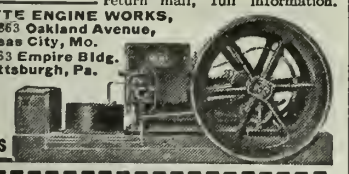
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Kerosene, Distillate, Gasoline, Gas.
SOLD DIRECT FROM FACTORY. 5-YEAR GUARANTY.
2 H-P $34.95; 3 H-P $52.50; 4 H-P $69.75; 6 H-P $97.75; 8 H-P $139.65; 12 H-P $197.00; 16 H-P $279.70; 22 H-P $369.80. *Portable Engines Proportionally Low.*
Prices F. O. B. Factory.

Besides lower price, WITTE engines use **less fuel** per H-P hour—from one-fourth to one-third less—enough saving in a year to pay entire cost of engine. Easy starting; **no cranking.** Our 28 years engine building makes this higher quality for you, at a small one profit for us. Used for all kinds of work.

New Book Free Write us, so we can send you by return mail, full information.

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In Handy Packets Also Small Cans

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SCIENTIFIC PRESS PATENTS PATENT AGENCY
911 Crocker Bldg., S. F.
Circular containing 100 mechanical movements mailed free.

SEE LVITWIELER EXHIBIT
SAN FRANCISCO - SAN DIEGO



These pumps represent the highest development in water machinery. Write for booklets. Luitwieler Pump. Eng. Co., 713 N. Main, Los Angeles.

A great deal of water is used here to flush out the cement-floored milking barn every day, clean utensils for city milk trade, and water the large dairy, besides about 500 hogs.

CO-OPERATIVE MACHINE OWNING.

Co-operation in marketing and buying is not the end of co-operation. Where machinery is too expensive for one man to buy, or would not be used enough on one place to pay interest on the investment, co-operation in owning is an advantage to all concerned and permits the use of much labor saving machinery that would not otherwise be available.

This is what A. L. Stephenson of Tehama county and two associates have done on a silage cutter. Mr. Stephenson has no silo, but believes in chopped alfalfa; so he can use the machine when the others do not want it. But if all three grew corn for silage, the chances are that it would be planted and matured, naturally at different times—anyhow, it wouldn't be hard to make arrangements of that sort.

With a rented 6 h. p. International gas engine set on a sled, their cutter chops and blows into the barn about ten tons of hay per day.

GETTING A SILAGE CUTTER.

In hoisting water into a tank or out of a well a vertical pipe is most economical, allowing gravity to carry it horizontally to the desired point, on account of friction against the pipe, which greatly increased in horizontal pipes. This is considerably more important in blowing silage or chopped hay to any height. A blower is more satisfactory than a carrier on account of ease in handling the entire control of chopped feed regardless of wind. In deciding the size of silage cutter to buy, it is well to remember that there is only a short period in which corn is at its best for silage. A cutter large enough to keep the largest available crew cutting and hauling during the period of proper condition of the corn is most economical. In selecting an engine, one horse-power will be required, usually, per inch length of the cutting knife.

OLD CAR CULTIVATES FORTY-FIVE ACRES.

If you have an out-of-date automobile and an orchard which requires four horses to be fed and cared for, you might convert the car into a tractor, as H. E. Redmond of Tulare county has done. It was a 1910 Buick runabout, 18 h. p. engine. He shortened the axles and propellor shaft, put tractor wheels on behind, reinforced the frame, put on a distillate burner, and undertook the care of a 45-acre orange orchard.

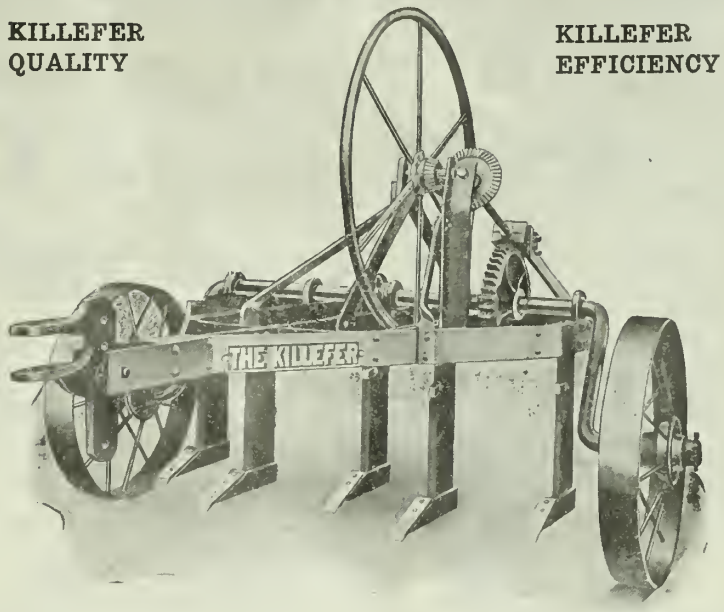
"I harrowed eight acres both ways this morning in five hours and a quarter," said he, "and watched the irrigation at the same time. I drove three times down each row of trees, which are 24 feet apart, with two sections of a spike-tooth harrow. Five gallons of engine distillate and a quart of oil run it on any kind of work for six hours."

As the autumn season comes on the people settle down to the serious work of the winter—attending picture shows.

FIVE STANDARD SUB-SOIL PLOW

KILLEFER QUALITY

KILLEFER EFFICIENCY



Subsoiling is generally conceded to be of great benefit to the soil in any country, but more especially in our Western States, where the ground is never frozen, but is packed from year to year, making it very hard and allowing a large percentage of the natural rainfall to run off, that would be absorbed if the ground was broken up to receive it.

The use of these tools in preparing ground for raising grain has proven a thorough success and the value of their use on ground for Alfalfa and other crops cannot be questioned.

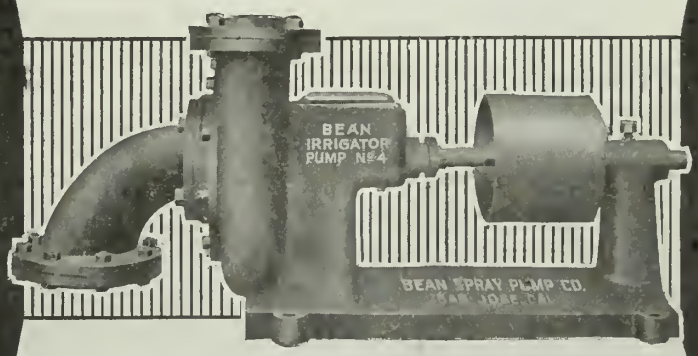
The above tool is built in sizes of Three to Seven Standards, and will work to a depth of twenty-four inches, thoroughly breaking up the ground and putting it in the best possible condition to hold the moisture for the crop following.

The Killefer Manufacturing Co.
2209-21 Santa Fe Ave., Los Angeles, Cal.

Get All the Water

Lack of water is not always the fault of the well—it is often the fault of the pump. No matter how good a well you have, if your pump is not right, if air leaks in around the shaft or if you have to tighten up the stuffing box till there's excessive friction, or if for any other reason your pump does not do efficient work—you cannot get the quantity of water your well should yield.

BEAN CENTRIFUGAL PUMPS
are built to get **ALL** the water.



The water-sealed stuffing-box prevents leakage of air and practically eliminates friction at this point. The automatic water-balance prevents end-thrust and does away with a lot more friction. And in many other ways Bean Centrifugal Pumps are built for downright efficient service.

WRITE FOR CATALOG 28-B AND OUR NEW LOW PRICES

It describes the entire Bean line of Horizontal, Vertical, and Deep Well Turbine pumps and direct-connected irrigation outfits. In writing, tell us your particular problems and our pump experts will help you solve them. For Hand and Power Sprayers, get Catalog 28-A; for Bean Opposed Engines, Catalog 28-C; for Hand, Windmill, and other Pumps, Catalog 28-D.

BEAN SPRAY PUMP CO.
211 West Julian Street SAN JOSE, CAL.

General Agricultural Review.

CITRUS AND SEMI-TROPICAL.

The California Ahuacate Association will hold its first genral meeting at the Hotel Alexandria, Los Angeles, Oct. 23.

Lady bugs have been brought in great numbers to Yuba county to fight the mealy bug which is infesting the orange trees there.

The second annual meeting of the Tulare County Growers' Protective Association was held at Lindsay on Oct. 2. By unanimous vote it was decided to continue the organization and also to maintain the Government maturity standard of shipping frult.

A suggestion was recently received from the Pure Food Bureau at Washington by the Butte county orange growers who are fighting the 8 to 1 standard of maturity, embodying the idea of shipping Butte county fruit labeled as follows: "Tart Oranges. Do Not Conform to the Government Standard." The suggestion was rejected by the growers on the grounds that the label was unfair and not in accord with the facts.

OLIVES AND NUTS.

The various olive pickling plants of Butte county are now buslly engaged preparing for the season's run.

The harvesting of English walnuts is being carried on in Ventura county and the prospects are very promising.

On Sept. 28 the season's first car of California walnuts were shipped from Saticoy; there were 17 tons in the shipment destined for Chicago.

R. A. Powell, manager of the Porterville cannery, is credited with the statement that the olive crop of Tulare, especially the Manzanillas, will be early this year.

Ranchers in the Knights Ferry section of Stanislaus county report notable yields in almonds from trees which have been practically uncared for since their planting 20 years ago.

Olive culture on a commercial scale bids fair to become one of the most important phases of activity in the East Highlands section of San Bernardino county, judging from the acreages being planted there.

The directors of the California Walnut Growers' Association at a meeting held at Los Angeles on Sept. 30, announced the following prices for the 1915 crop of walnuts: No. 1 soft shells, $13.60 per cwt.; No. 2 soft shells, $10.60 per cwt.; budded walnuts, $17 per cwt.

GRAPES AND SMALL FRUITS.

Shipments of Tokays from Lodi totalled 1100 cars up to Sept. 28.

Due to the success following the first "California Grape Week," it was decided to make the event a permanent one.

The last crop of grapes is being harvested on the Vina Ranch in Tehama county; the vines on 1800 acres will be torn up and alfalfa planted in their stead and dairying on a large scale will supplant wine making.

DECIDUOUS FRUITS.

The Beaumont apple picking and packing season is now at its height.

The Tulare county prune season is nearing its close; the crop has been large and prices unusually good.

Prune harvesting in Kings county is nearly over, and it is estimated that the yield will amount to about 5000 tons.

A consular report states that the apple crop in the Ontario Province, Canada, will be short and rather poor in quality.

On Oct. 4 a meeting was held at Watsonville to attempt the reorganization of the Pajaro Valley Orchardists' Association.

Gregory Bros.' nursery of Napa county state that they have 4,000,000 Myrobolan seedlings on hand. One million plants have already been sold.

Commencing Sept. 27, the Sebastopol Apple Growers have been paying $10 per ton for canning apples not smaller than 2¼ inches in diameter.

Eighteen prunes weighing one pound were grown by R. E. Burton of Vacaville on a six-year-old seedling tree which originated from a French prune seed.

Sonoma county apple growers are being urged by the packers to allow the fruit to remain on the trees until well colored; the crop of late varieties from that section is short, but the price outlook is considered good.

The California Growers' Association which was organized last spring by the growers of Tulare county is growing rapidly and the prospect is that it will control eight canneries next season, according to a statement made by Manager Campbell.

Articles of incorporation were recently filed by the Hemet-San Jacinto Valley Growers' Association, and directors for the first year were elected as follows: D. W. Amos, John T. Blair, M. B. Rideout, John Hodges, E. W. Schmidt, J. R. Wilson, Walter A. Carr, J. S. Thompson, John A. Anderson, W. N. Corwin, and John A. Nelson. A cooperative cannery to be located at Hemet will shortly be opened by the Association.

GRAIN AND FIELD CROPS.

Tomato shipping has commenced at Fullerton.

Eugene Rutherford is planning to plant 1000 acres of his land near Gridley to rice next season.

It is stated that California produced 2,775,000 sacks (80 pounds each) of dry edible beans last year.

The 200-acre rice field planted by T. S. Hyde seven miles northwest of Dixon is reported to be one of the best in the State.

On account of the success of this season's planting, it is expected that over 9000 acres will be planted to rice in Yolo county next spring.

Experiments with rice on 500 acres of alkali fields in Tulare county are proving a success, according to a report received from there.

The Agnews State Hospital will now purchase its supply of vegetables from the surplus grown at the University Farm at Davis.

It is reported that Sutter county will have a banner crop of beans this year in spite of red spider and other pests which have infested the fields.

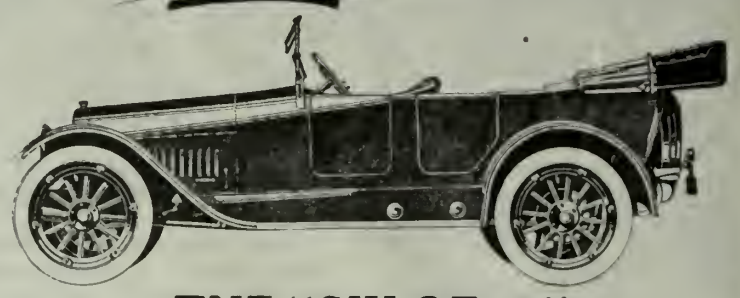
The 1915 Turlock melon season was brought to a successful close last week, the growers having marketed an enormous crop at good prices.

A movement has been started to hold a State-wide Rice Growers' Convention at the Panama-Pacific

Ground Carbonate of
LIME
for Fertilizer.
Send for Bulletin and Prices.
Western Rock Products Co.
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Large size for Orchard Planting.
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THE "SIX OF 16"
$1250, Factory

Has again won the $1000 trophy; Sacramento-Tallac, about 110 miles; time, 3 hours, 25 minutes. Probably 100 or more trials have been made at this run. The record has been lowered and trophy turned over to winners eight different times, four times to a Mitchell.

We still hold the cup. Who can beat it?

OSEN-McFARLAND AUTO CO.
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661 Golden Gate Avenue, San Francisco.
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"The Children's Hour"
Protect the children from the draughts.
Keep the damp and chill away with a good oil heater.
Inexpensive to operate — easily carried from room to room. Smokeless and odorless. Dealers everywhere.
For best results use Pearl Oil
Standard Oil Company
(California)
San Francisco



Perfection Oil Heater

Hydrate Lime Rock LIME Best Cheapest
(Over 97% pure.) One ton Hydrate equals two tons Lime Rock.
Write us for free booklet.
PACIFIC LIME AND PLASTER CO.
807 Monadnock Bldg., San Francisco.

Exposition this fall, and it is meeting with favor.

C. W. Blevins of Williams, Colusa county, is credited with the statement that the experimental planting made of cotton on his ranch is proving successful.

Twenty carloads of onions left last week for the East on the first special train to carry that product exclusively from Sacramento county to eastern points.

The canning of sweet potatoes commenced on Sept. 29 at the Atwater plant of the Sunlit Fruit Company; over 4000 cases have been contracted from the growers.

The Humboldt County Farm Bureau has decided to purchase its supply of alfalfa seed for the coming season from the V. A. Peterson Alfalfa Seed Company of Arbuckle.

Rice was planted experimentally on 300 acres in Kings county this season to such success that the growers feel confident that Kings county will become one of the State's large rice-producing centers.

Ranchers in the Pomona Valley of Los Angeles county have just harvested their first crop of blackeye beans to be grown on an extensive scale; this season's success will lead to an increased acreage next season.

MISCELLANEOUS.

The first meeting of the Stanislaus County Farm Bureau was held at Modesto on Sept. 25, and officers for the coming year were elected.

The Maxwell Nurseries of Napa have about 350,000 trees in their nurseries for their customers this year.

A tract of 20,000 acres of the original Chowchilla ranch at Chowchilla, Madera county, will shortly be cut up into small farms for settlement.

Two hundred and fifty boy members of high school agricultural clubs will be guests of the State for two days at the University Farm at Davis the latter part of this month.

FALL PEACH SPRAYING.

[Written for Pacific Rural Press.]

A heavy spraying with Bordeaux for peach blight was given to Sam Cloughs seven and eight year old peach trees last fall directly after the pruners were out of the way in November. A gallon of spray was applied per tree under 225 pounds' pressure. The trees were thoroughly soaked so that the spray would run down to the roots. Mr. Clough says he has found Bordeaux mixture six or seven inches deep in the ground six months after it was applied, and he likes it for its purification of the soil. Lime sulphur spray just before buds open in the spring after a fall spraying would kill curl-leaf, any remaining blight, and peach-worm larvae.

TOO MANY CRICKETS.

To the Editor: Early this spring we built a new bungalow. Within possibly a month we began to be annoyed with crickets, which have increased until they are a positive nuisance. We are very particular not to leave food crumbs, sugar, etc., around and all garbage is removed promptly from the kitchen and burned. We are subscribers to your very valuable paper which we regard as almost indispensable. Can you recommend a way to conquer crickets?—G. S. H., Oakdale.

[The cricket on the hearth may be a poetic affair but too many crickets are a burden. Prof. Woodworth advises us that he would use grasshopper poison on them. This is the formula for use on a small scale: Bran, 1 pint; white arsenic, ½ teaspoonful; molasses, 2 tablespoonsful; water, ½ pint. Mix arsenic and bran dry. Stir molasses and water together and then mix into bran, making a moist paste. This may be put around on pieces of shingles out of the way of kids and kittens. If it dries to soon it may be re-moistened with water.—Editors.]

WE MUST HAVE NAMES.

Readers who ask questions must send correct names and addresses if they expect to receive any attention. We do not need to print names but we must have them. Sometimes readers try to play us and go to the waste-basket. For instance: O. B. Server might have had good stuff sent him if he had not been so smart.

The harvesting of a large crop of beans is well under way in the San Fernando Valley. The product is being handled by the Van Nuys-Owensmouth-Marian Growers' and Canning Association, which has recently installed a bean cleaner of sufficient capacity to handle the crop of many thousands of acres of land.

Bean Bags, BeanSheets, Irrigation Hose, Twine, Tents, Hay Stack Covers, Wagon Covers—Canvas, Desert Brand Water Bags. Milk and Butter Coolers.

Write for Catalog and Discounts.

W. A. Plummer Mfg. Co.

35-37 Front St., Cor. Pine, San Francisco



Plowing

THE YUBA Ball Tread Tractor is an efficient and economical aid to the farmer, not only in plowing, but in every operation where motive power is needed. ¶ The Yuba gets on the land first. If the soil is soft, the Ball Tread prevents it from miring. If it is heavy stiff adobe the Yuba is able to handle a sub-soiler working in the hard-pan, plowing deeper and better.

¶ The Yuba works twenty-four hours—no rest—no stop—compact, yet powerful and sturdy, and no skilled mechanic is needed to operate it at its maximum efficiency.

¶ If you are interested in making money—working not only on your own farm, but on your neighbor's—when your plowing, cultivating and harvesting are done, fill in the coupon and send it to

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THE YUBA BALL TREAD TRACTOR

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Gentlemen:
Kindly send me a copy of your booklet "The Yuba Ball Tread Tractor."

Name .....
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CHECK MAIN CROP RAISED

Fruit	Rice .....
Grapes	Alfalfa .....
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California's Opportunity for Dairymen.

[Written for Pacific Rural Press.]

KEEPING GOOD CREAM GOOD.

It has been pointed out that better butter prices would come with a better grade of butter, and that a better grade of butter will come from work done on the dairy where butter-fat is produced.

When we recently asked several of the State's largest butter manufacturers and distributers what was the fundamental cause of poor cream in California, we were repeatedly told that one man summed it up in a sentence when he said: "Setting the cream can under the separator spout and letting it set there."

As a matter of fact, he did not literally mean just that, but he wished to impress on our mind that the practice of pouring warm cream from one separation into the can containing cool cream from previous milkings was one of the chief causes for cream which is commonly called "rotten" on account of its being in such an advanced stage of fermentation it cannot be used for table consumption and cannot with the most improved methods be made into good butter.

The practice as outlined works out like this: the cream coming from the separator soon after being milked has a temperature of 90 to 95 degrees Fahr. This is poured into a can retaining most of the animal heat, which aids in bacterial growth. This growth gradually lessens as the cream cools till the next milking, when the next batch of warm cream is poured into the can. This heats up the bacteria again in the previously cooled cream, and adds materially to the number already hatched. The longer such cream is kept and the more batches that are added the worse the quality of the cream becomes and the more difficult it becomes for the butter-maker to handle, and the less it is worth when it reaches the market in the finished product.

Such a condition is undoubtedly responsible for the poor relative score of our butter during most of the year, and now that we must export an ever-increasing amount of butter annually will have a controlling influence on butter prices. It is therefore poor business foresight on the part of dairymen to continue such practice, especially in view of the fact that with an investment of $10 to $15 every dairyman can do his share toward the improvement which is so badly needed.

This can be most easily accomplished by the purchase of a cream cooler and aerater over which all cream is aired and cooled after separating and before being poured into the cream can.

There are various makes and types of these coolers, the most satisfactory ones being those which are so constructed as to be easily cleaned and that will cool the milk to as near the temperature of well water as possible.

Experiments in the interior valleys show that running cream direct from the separator to the cream can over which such a cooler cools the cream from around 95 degrees Fahr. to within four or five degrees of the temperature of the water which is never higher than 70 degrees, and very often less. By lowering the temperature 25 degrees and thoroughly aerating it in this manner, cream will keep sweet 24 hours in the hottest weather we have, thus placing it in the creamery by those having a daily collecting system in perfect condition. Naturally the cooler the water and the weather the longer it is possible to keep the cream sweet.

Except for the small initial investment there is no added expense or labor except the washing of the cooler after use, which is of minor importance.

PRACTICAL AS INTERESTING

After buying two copies of our new "California Hog Book," Mr. Whitten of Los Angeles sends us the following statement of what he thinks about the book:

"I have just finished reading your 'California Hog Book' and find it what I have been wanting for years—just as I have found the other books published by you. I have a library which embraces over 300 volumes on agricultural and livestock subjects. I have tried to have it include every book of any account along these lines; but while most of the volumes are good enough to read over once, and several are excellent for eastern farmers, I find that the best of them have very little of real practical value to Californians. Our conditions are so different out here that each subject requires special treatment, and this Mr. Gullford has certainly given the swine industry.

"The book is just as practical as it is interesting. There is a rule for guidance in every case; a remedy for practically every trouble that can occur. There are actual working plans, illustrated and explained so clearly that a person can put them into instant operation, and profit by their money-making value. I wish that a copy of this book could be placed in the hands of every hog raiser on the Pacific Coast."

PROLIFIC YORKSHIRE SOWS.

To the Editor: In your issue of September 18th, under article headed, Breed from Prolific Hogs, you quote a letter of Mr. R. J. Ross, Modesto, giving the number of pigs farrowed by his Duroc sow, West Hope. For the benefit of your readers we beg to give you the record of our large Yorkshire sow, Nema Eighth.

This sow was farrowed October 30, 1913, and was one of a litter of sixteen pigs. On September 8, 1914, she farrowed twelve pigs, raised ten. On March 14, 1915, she farrowed fourteen pigs, raised twelve. On September 15, 1915, she farrowed seventeen pigs and is raising twelve.

The mother of this sow, owned by an Iowa breeder, farrowed fifty pigs in her last three litters, twenty in her last litter.

Two sows of the litter of September 8, 1914, farrowed a few days ago, one a litter of ten, the other a litter of nine.

Yorkshire sows will raise regularly two strong litters of pigs per year without retarding the growth of the sow. The best results, however, might be secured by breeding so that the sow would not farrow her first litter until about fifteen months of age. **Riverina Farms.**

Modesto, Cal.

F. M. Pangburn of Sulsun writes us that he has a gum tree on his place that measures above ground 6 feet, 5 inches in circumference; also a sunflower that measures 20 inches in diameter, and a sunflower stalk that measures above ground 13 inches in circumference.

Gombault's Caustic Balsam

The Worlds Greatest and Surest

Veterinary Remedy

HAS IMITATORS BUT NO COMPETITORS!

SAFE, SPEEDY AND POSITIVE.

Supersedes All Cautery or Firing. Invaluable as a CURE for

FOUNDER,
WIND PUFFS,
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REMOVES

BUNCHES or BLEMISHES,
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SAFE FOR ANYONE TO USE.

We guarantee that one tablespoonful of Caustic Balsam will produce more actual results than a whole bottle of any liniment or spavin mixture ever made Every bottle sold is warranted to give satisfaction Write for testimoulals showing what the most prominent horsemen say of it. Price, $1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use.

The Accepted Standard VETERINANY REMEDY

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NOTHING BUT GOOD RESULTS.
Have used GOMBAULT'S CAUSTIC BALSAM for more than 20 years. It is the best blister I have ever tried I have used it in hundreds of cases with best results. It is perfectly safe for the most inexperienced person to use. This is the largest breeding establishment of trotting horses in the world, and use your blister often.—W. H. RAYMOND, Prop. Belmont Park Stock Farm, Belmont Park, Mont.

USED 10 YEARS SUCCESSFULLY.
I have used GOMBAULT'S CAUSTIC BALSAM for ten years: have been very successful in curing curb, ringbone, capped heck and knee, bad ankles, rheumatism, and almost every cause of lameness in horses Have a stable of forty head, mostly track and speedway horses, and certainly can recommend it.—C. C. CRAMER, Training Stables. 990 Jennings Street, New York City.

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FOLLOW THE CROWD

to the

The Great Hanford Sale

The California Holstein Breeders
SECOND CONSIGNMENT SALE

Hanford, Oct. 14-15
1915

AND BUY THE RIGHT KIND RIGHT

READ THIS! YOU!

A 3-year-old daughter of **COLANTHA SIR PONTIAC AAGGIE,** out of a 17-lb. cow, just finished making 25 lbs. butter in 7 days. What will his daughters out of cows with records of 30, 29.90, 24.45, 22.50 lbs. make if this one can make 25 lbs.? The answer is easy.

AND REMEMBER—17 are to be sold in this sale. They are representative of the

175 HOLSTEINS OF QUALITY

Remember to Follow the Crowd.

JAMES W. McALISTER, JR., Chino, Sales Mgr.
COL. B. A. RHOADES, Los Angeles, Auctioneer

ANNOUNCEMENT: Through an error on the part of the printer, **WISCONSIN DAISY of Sleepy Hollow,** 29.90-lb. as a 4-year-old, has been omitted from the catalogue. She will positively be sold to the highest bidder.

More and Better Hogs in California.

Pigs' growth depends on sows' feed. Sows make better mothers, have more pigs, and develop them faster when well prepared for the strain of suckling by fattening feeds before farrowing, sloppy feed at farrowing, and slop with succulence while suckling.

[Written for Pacific Rural Press.]

If sows on the right kind of feed can't furnish plenty of milk for litters of 7 to 10 pigs, according to their age, two alternatives are open to their owner: replace them with sows that can, or get out of the business whipped. Our stories of successful hog men are of those who raise large litters and keep them growing from the start—the measure of success usually being in proportion to their ability in this line. Some sows can suckle large litters satisfactorily and stay in good condition. Others get thin on the same feed. The first kind is the one to keep, but many people have the other and make money with them. The best sows cannot do their pigs justice without proper feed. It is the reasonable consensus of successful breeders that the sow should be strengthened to the full extent while still carrying her pigs, with balanced rations that will lay up a fair amount of fat for her sustenance during the strain of suckling. S. F. Williams of Chico says that she should have plenty of grain before farrowing, but the grain should be reduced at that time even at the cost of a few pounds of flesh. He says that grain right after farrowing heats up the sow too much, dries up her milk, and stunts the pigs. H. Ward of Chowchilla lost five out of a litter of twelve because he fed the gilt all the barley she wanted the day after farrowing. She had a touch of milk fever. Two other gilts which farrowed a little later raised eight each. They had no trouble because they were fed melons and a slop of ground barley the first four or five days till the milk was well started. He builds up the sows while carrying pigs so they won't get too thin while suckling.

Extra meat on her back as a reserve to draw from when suckling is the policy of G. A. Smith of Corcoran, who has had a beautiful bunch of 75 brood sows running on 20 acres alfalfa and 60 acres grain stubble, with plenty of shade and running water, since June 1. He feeds plenty of barley previous to farrowing and reduces this to a little ground barley in skim milk slop just before the pigs come. Mr. Tweed of Willows wants the sows to strengthen up on alfalfa meal and light graining till near farrowing, when more ground barley is fed in a slop of alfalfa meal and water. He also believes in alfalfa pasture.

Avoids Constipation and Fever.—Many a lost pig, and even many a lost mother, is due to constipation, to which a pregnant animal of any kind is peculiarly liable. J. K. Fraser watches his sows closely during the last month of gestation. If the bowels are closed the pigs are squeezed and there is likely to be a tearing of the sow. He feeds them a thin slop of equal parts shorts and barley, mixed with milk. A little oil cake or cottonseed is fed sparingly; too much induces scours, which weakens the sow. The first 24 hours after farrowing the sow receives nothing but water. This keeps the fever down and is given as soon as farrowing is finished. He lays most of other people's troubles with sows at farrowing to feeding them too soon. After 24 hours a light slop of milk and bran furnishes nourishment and cleans the bowels. In two or three days the sow gets three feeds a day of bran, shorts and mids, with a little oil meal in milk. Lacking milk, water is used and tankage is added. When the pigs can run about they are turned with their mother into alfalfa pasture.

Food for sows while suckling must be regulated, according to C. C. Stewart of Orland, by the way the pigs are doing, not by the way the sow looks. She should be in good condition before farrowing.

Besides alfalfa pasture she gets a gallon three times a day, at the start, of two parts alfalfa meal and one part shorts mixed to a thick slop with skim milk. This is increased to three gallons per day at weaning time on account of the growth of the pigs.

A sloppy, succulent feed furnishes the sows most milk, and milk is what the pigs must have in order to earn profits. E. C. Rand of Santa Rosa notes that the pigs take all the milk there is in the sow, no matter how much other feed.

Pumpkins, melons, and a little spineless cactus are used by Elmer Lamb of Ceres in addition to slop made of two parts shorts, one part tankage, two parts soaked barley, and water. He uses the tankage in place of milk, which is not available.

MUTTON SHEEP FOR SMALL FARMS.

[Written for Pacific Rural Press.]

Sheep prefer morning glories to grass, and kill it in two seasons, according to Henry Springer, who has a small farm near Visalia. They eat stuff the other stock won't eat, including all kinds of known weeds, and they clean up Jimson weeds as high as they can reach. Mr. Springer keeps just a few on his little place to supply his own meat. He began with one ewe and now has four, with three lambs. They eat hay with the cows, graze with the calves, and keep weeds down.

DUST HURTS HOGS.

Dust is one of the worst things in raising California hogs, according to S. F. Williams of Chico. Pigs breathe their lungs full of dirt rooting around, or running in herds, or lying down with their noses in the dust. It pays well to run them on green pasture or wooden floors, or hard dirt, frequently swept off, as Charles Goodman of Williams does.

SHEEP LAWN MOWERS.

On the Huntley ranch near Visalia is a beautiful tree-shaded yard planted to Bermuda grass; but often the Huntleys are away for weeks at a time, and when they come back the grass is beyond all lawn mowers.

When they came home early last September the grass was "so tall we could scarcely wade through it." They put their eight two-year ewes and six or seven young sheep onto the lawn and in a few weeks had it down to respectable height.

FOR SALE Jersey Bulls Bull Calves

from cows on yearly test-making, good-sired by our herd bulls **KING'S VALET (imported), VALET'S KING OF L, BORELLO'S GOLDEN LADDIE, GRACE'S FOX OF VENEDERA, and NORMA'S GERTIE SON OF L,** backed by production and winnings in the show rings.

They are of **FINANCIAL KING, GOLDEN LAD, GOLDEN FERN'S LAD, MARIGOLD and ST. LAMBERT** blood, the kind that improve type, cream production and persistency. One cow gave 49.5 lbs. fat in 11th month; her daughter gave average test of 8.38%; another gave 79.9 lbs. fat in one month, 238.9 lbs. fat in 134 days. A 2-year old gave 50.6 lbs. fat in one month—all under dairy conditions.

We have bulls from such cows, with correct type.

Dairyman's Opportunity

For $50, a yearling bull by **VALET'S KING OF L,** out of a good cow. $25 for bull calves under 30 days old. Tabulations, but no Registrations at this price.

Come and see them, send for catalogue, or write us your needs, and we will give you satisfaction and profit.

N. H. LOCKE CO., Lockeford, Cal.

Sunnyside Herd

31 head of females from this famous herd will be sold at the

Breeder's Consignment Sale at Hanford, October 14th and 15th

Some A. R. O. Cows and some choice bred heifers bred to my herd bulls, **Arcady Pontiac Wayne Hengeveld,** who has 13 A. R. O. daughters, and **Judge Hengeveld De Kol 6th,** my junior herd sire.

NO BETTER BRED SIRES IN THE STATE.

R. F. GUERIN

R. R. 3, Box 58, Visalia, Cal.

Hillcrest Stock Farm

THORNTON S. GLIDE, Prop., Davis, Cal.

Breeders of

Short Horn Cattle

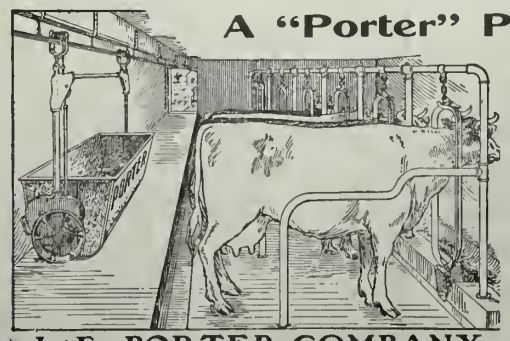
Shropshire and Merino Sheep

ATTENTION, SHEEPMEN.

My purebred, range-raised yearling Shropshire and Merino rams are now out of the mountains and ready for inspection at my place.

Shropshires sired by rams imported by me from England in 1911.

A "Porter" Planned Barn



PORTER EQUIPMENT MAKES A BARN modern and up to date—one that takee care of the largest number of cows and other stock. A barn planned the Porter way saves labor, time and feed, and makes money for the farmer or dlaryman every day in the year. It pays big profit on the investment.

The Porter steel stalls, cows stanchions, litter carriers, barn door hangers, hay carriers and other fixtures are acknowledged leaders everywhere

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THE PORTER BARN PLAN SERVICE. is free whether you expect to build now or later. Send for catalog of Perfect Barn Equipment.

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642 Fremont Street, OTTAWA, ILL.

With the Live Stock Men.

DAIRYING.

S. H. Fountain of Dixon likes a cow from a Guernsey, Holstein, or Durham cross, for a milk cow.

Hewitt & Hewitt of Hardwick will move to Dixon after the Breeders' Consignment Sale of Holsteins at Hanford, Oct. 14.

C. E. Shelton of Vacaville reports that Ayrshire bulls bred to ordinary cows produce good, strong, promising heifers.

Jay Bryant, formerly of Santa Rosa, recently purchased 160 acres of land at Alturas, Modoc county, on which he will establish a modern dairy plant.

County Veterinarian Dr. Geo. S. Rey has been visiting the herds in the southern part of Tulare county, condemning those that have tuberculosis.

C. E. Wertz of Ferndale recently purchased the 80-acre ranch near Turlock belonging to Arthur Elliott of Modesto and Mrs. M. McConnell of Oakland.

The Chico Development Committee will present a loving cup to the member of the Gridley Cow Testing Association who owns the cow producing the largest amount of butterfat during the year.

Niles P. Searls, Farm Adviser of Yolo county, reports that on Sept. 24 was held the first annual meeting of the Sacramento-Yolo Cow Testing Association. There are 950 cows under monthly test in the Association.

The Golden State Dairy Farms of Dixon, of which H. M. Whitacre is manager, are shipping into Oakland 800 gallons of milk daily. A 200-foot feeding shed to shelter the stock in the wet winter weather is now under construction.

The Gridley Cow Testing Association held its annual meeting recently and elected the following officers for the coming year: President, N. A. Neilsen, Gridley; vice-president, John Guill, Jr., Chico; secretary and treasurer, S. F. Bonner, Gridley.

Toplin Bros. of St. Helena report that their Holstein bull took the blue ribbon in the 3-year-old class at the Vintage Fair held at St. Helena the early part of September. The same bull is also the father of five pair of twins born on the ranch this year.

Manager Agee of Balfour, Guthrie Company's ranch at Napa reports that they have sold to the State of California four Holstein bulls and one Holstein heifer. Their herd is headed by Rag Apple Imperial, son of Rag Apple Korndyke who recently sold for $50,000.

Charley Tomigni of Kellogg is one of the few breeders of the milking strain of Shorthorns in the State. He now has 20 head of cows and heifers registered. This number will be increased until the entire cow population on his 4000-acre Sonoma county ranch is stocked.

The N. H. Locke Co. of Lockeford report the sale to Mary A. Deterding, Carmichael Colony, Sacramento, of Valet Adelaide's Imp. of L., grandson of Imp King's Valet and Imp Derry Circassian. They also state that they will show a herd at the Panam-Pacific Exposition.

A 3-year-old daughter of Colantha Sir Pontiac Aaggie has just made over 25 pounds butter in 7 days and out of a dam with a record of only 17 pounds butter in 7 days. Seventeen daughters of this great young sire out of cows with records of 30, 29.90, 24.45, and 22.50 are offered in the Hanford sale of Holsteins on Oct. 14.

Guy H. Miller of Modesto reports the following work done by two Jersey heifers, two years old: Gazelle of Venadera 275315, recently finished an official year's test, giving 6241 pounds milk, 405 pounds butter, averaging 85 per cent fat. Astrea of Venadera 293696, finished an official yearly test this month, giving 6267 pounds milk, 435 pounds butter, and averaging 85 per cent fat.

CATTLE AND SHEEP.

According to McDonnell Bros. of Kellogg, a good rain would be a great benefit to their stock range.

J. R. Bloom of Dixon reports the demand for registered Shropshire bucks as extremely good.

S. J. and H. G. Vincent of Porterville recently shipped 64 head of beef cattle to Los Angeles.

"The only trouble with raising registered Hampshire sheep, is to produce them fast enough," says

HINMAN
THE UNIVERSAL MILKER



THESE TWO HINMAN MILKERS
$135.00
Including Complete Equipment. And by attaching a ½ H. P. Electric Motor or a 1 H. P. engine, you can milk at the rate of 15 TO 18 COWS PER HOUR, and keep a record of each cow's milk.
Any time you want to reduce the milking time, add another unit at a cost of $50.
A Hinman Feature
The Hinman is the only machine that absolutely breaks the vacuum after each draft of milk, giving the same release as hand-milking.
May we mail you our free book, "Making Money with the Hinman Milker"?
WRITE FOR IT TODAY.
Chas. F. Daniels & Son
2511 Prince St., Berkeley, Cal.
See the Hinman Milker demonstrated at the Agricultural Palace, P. P. I. E.



THE IDEAL GREEN FEED SILO
Built up to a high standard, not down to a low price.
THE PURCHASE PRICE of ALL IDEAL GREEN FEED SILOS includes acid-proof, water-proof paint for the inside.
A ladder independent of the doors.
¾-inch hoops instead of ½-inch near the bottom where the pressure is greatest.
A 3-ply circular plate at the top to keep the silo round.
A continuous door front from top to bottom fitted with the IDEAL Patented Refrigerator Type Door, thus insuring an air and water-tight joint.
A thoroughly practical piece of equipment.
ALPHA ENGINES, ENSILAGE CUTTERS.
Everything for the Dairy.
De Laval Dairy Supply Co.
San Francisco. Seattle.

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Expert Live Stock Auctioneers
Sales conducted in all parts of Write for dates and terms. write for dates and terms.
Twenty-five years' experience.
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LARROWE'S DRIED BEET PULP
is clean, wholesome, appetizing and aids digestion;
will produce more milk at less cost than any other feed.

"—at no time did we ever handle any feed that gave better satisfaction or met with such general favor as Larrowe's Dried Beet Pulp, and we are very glad for having pushed it as hard as we have.
(Signed)
Oregon Commission Co.
Oregon City, Ore."

Your Cows Need This
rich, succulent feed, in order to do their best
Dealers everywhere are selling it rapidly, because it "delivers the goods." It makes no difference what ration you may be using—you can add Larrowe's Dried Beet Pulp to it and get better results. This has been proven by large and small feeders everywhere. As it costs almost nothing to make the test, we suggest that you go to your feed dealer today and order a 100-lb. sack (either plain or with molasses) and try it on one cow whose milk record you know. The results will surprise you.
Write For a Copy of Our Booklet—"Profitable Feeding"
containing valuable information on feeds and feeding. Sent free to any address upon request.
THE LARROWE MILLING CO.
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LARROWE'S DRIED BEET PULP

LAST CALL FOR SILOS
FOR THIS SEASON'S USE
We will ship you a Remco Redwood Stave Silo, best Silo made—in 4 days—so you can silo this Fall's corn crop. Every day counts now. If you have feed that you will turn into silage accept this last call and get your Remco. If you don't you lose a whole season's benefits.
You use Tanks and Pipe all year round. Let us quote your prices on our Remco Redwood Tanks in all sizes and our Remco Redwood Stave Pipe in all diameters, 2 inches to 12 feet.
Tell us your requirements and we will quote you prices. Our factory is equipped for special orders as well as standard requirements.
If you come to San Francisco for any purpose, come also to see us.
Redwood Manufacturers Co.
1613 Hobart Bldg., San Francisco, Cal.

Kaupke Bros. of Woodland. The demand is increasing in proportion to the rising price of lamb chops.

J. W. Marshall of Dixon is moving from his old stand to what is known as the Stormer ranch. He will continue in the registered sheep business. At present he has 140 registered Shropshires.

The Diamond G. Ranch of Esparto has at the head of its purebred Hereford herd a bull bred by Senator Splawn of Yakima, Wash., Donald Hope, son of Beau Donald 31st and Bright Hope, champion age cow at Lewis & Clark Exposition, Portland, Ore.

The Potter Huffman Land Company of Alturas, Modoc county, have purchased from the Lewis Pierce stock ranch of Suisun, two carloads of 86 head of extra good seven and eight months old grade Shorthorn bull calves.

HORSES AND SWINE.

S. S. Southworth of Napa recently shipped to Robert Towe of Phoenix, Ariz., a nine-months-old boar.

M. P. Williams & Son of Dixon, Duroc-Jersey breeders, sold a boar to Hans Rohmer of Dixon a few days ago.

Boudier & Son of Napa sold to G. A. Handshel and G. L. Winfrey, both of Napa, a sow pig and bred gilt respectively.

Dr. H. Hordorn of Chico recently purchased for the allied armies of Europe, 300 mules and 58 horses in Lake county, Ore.

The Oak Knoll farm north of Napa have what is said to be the largest herd of O I C hogs in the State; they are also getting a small start in Ayrshires.

J. W. Marshall reports that the public sale held on his ranch near Dixon Sept. 25 was a success; prices were higher than he had anticipated.

John W. Parker of Napa reports that practically all his sales of registered Berkshires have been made to local ranchers. This speaks well for Napa county.

F. M. Darby of St. Helena expects to keep a breeding herd of 10 Duroc sows. Sales, he states, have been good, most of the stock going to parties nearby.

U. S. Wood of Pomona has been commissioned by agents of the British Government to purchase 5000 horses in southern California counties for war purposes.

J. Muller of Woodland has just bought two Berkshire sows from Hiram Bullard, also of Woodland.

A great deal of interest is being taken in Napa county in blooded stock, says Homer Hewins of St. Helena. Ranchers are contracting future boar pigs from his registered Berkshire sows at good prices.

Elmo Montgomery of Davis bought the highest priced Poland-China sow at the recent J. W. Marshall sale near Dixon. This sow originally came from the University Farm at Davis.

Dean Curtiss of the Iowa State Agricultural College selected for and shipped to Homer Hewins of St. Helena a very fine young Berkshire sow. This makes the fourth registered Berkshire delivered to the ranch from the East. Arrangements

(Continued on page 367.)

LIVESTOCK DIRECTORY.

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DAIRY CATTLE.

INCREASE QUANTITY AND IMPROVE QUALITY of your milk by using a **Guernsey Sire.** We can furnish choice imported or home-bred bulls from big record cows at attractive prices. **Imp. Itchen May King 25174,** the best living May Rose bull, heads the herd. See him and his calves at San Francisco Exposition. Come and see our Guernseys, or send for price list. **Edgemoor Farm,** Santee, California, Walter H. Dupee, Proprietor.

HOLSTEIN—Three-year-old bull for sale. Son of Loreno Korndyke. Dam's dam, 29 lbs. butter cow. Well marked. Calves 80% heifers. Or will trade for bull equally well bred. For further information, write J. B. Archer, Madison, alC.

DISPERSION SALE OF HOLSTEIN HERD—52 Head of Registered Holstein-Friesians—26 cows of excellent blood lines of high record cows. 4 heifers, 2 year olds, bred. 10 heifers, four to fourteen months old. 6 service bulls of best families. 6 bull calves, one to ten months old. The sire of this berd is **Artis Pontiac Tekstra,** a grandson of King of the Pontiacs, also, a grandson of **Pontiac Artis,** one of the best of 116 A. R. O. daughters of Hengerveld De Kol. Prices on application.

350 Head of Grads Holsteins—250 cows, $75 to $125. 60 heifers, two years old, $65 and up. 40 heifers, five months to one year. The cows and heifers are bred to Holstein-Friesian bulls of the best families. Miller & Lux, Inc., Dos Palos, Cal.

REG. HOLSTEINS—We offer choice grandsons of King Segis, also grandsons of the world's record cow, Creamelle Vale; blood that increases the value of your berd. Write or call and see our herd. F. H. Stenzel, San Lorenzo, Cal.

TWO JERSEY BULLS—9 and 14 months old, sons of Opal of Venedera, daughter of Pearl of Venedera, California's Champion Jersey Butter Cow, and Elva of Venedera. Write for pedigrees. H. V. Traynham, College City, Cal.

WANTED—HOLSTEIN COWS — 5 to 25 well-bred heavy producing grades, carrying first to third calf. Must be fine dairy type, marked like purebreds and bargains for cash. Want for Tulare County ranch. B. H. Whitten, R. D. 5, Box 646, Los Angeles.

WANTED—25 to 50 good dairy cattle, to be paid for in monthly installments, payment secured by mortgage on stock with interest on deferred payments. Box 90, Pacific Rural Press.

REGISTERED HOLSTEIN COWS and heifers bred to Colantha Sir Pontiac Aaggie for sale. Also bull calf by him from a 24-lb. cow. K. W. Abbott, Milpitas, Cal.

HOLSTEIN BULLS—Purebred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

SUNNYBROOK RANCH, Willits, Cal.—Breeders Registered Holstein stock. Young bulls for sale sired by Ruby Gem Cavary Lad. Prices reasonable.

AYRSHIRES—For sale, fine young bulls from Imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

TWO REGISTERED HOLSTEIN BULLS out of A. R. O. dams. Sired by King Mead. Ready for service. J. H. Harlan Co., Woodland, Cal.

REG. GUERNSEY BULLS for sale. Grapewild Farm, Mayhews, Sacramento county, Cal. A. B. Humpbrey, Prop., P. O. Box P.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class, thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

REGISTERED HOLSTEIN BULLS—Grandsons of King of the Pontiacs. J. W. Benoit, Route C, Box 172, Modesto, Cal.

REGISTERED HOLSTEIN BULLS—Serviceable age. From finest strains. Panama-Pacific Dairy, Sutter Creek, Cal.

JOHN LYNCH, breeder of Registered Shorthorns. Milk strain choice. Young stock or sale. Box 321, Petaluma, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

HOLSTEIN-FRIESIAN CATTLE and Berkshire Hogs. H. B. Goecken, Breeder, Goecken Heights, Livermore, Cal.

REG. JERSEYS—Herd established 1868. Young bulls from best cows. Ranch Dos Blos, R. 2, Modesto.

REGISTERED HOLSTEINS—A. W. MORRIS & SONS, Corp., Importers and Breeders, Woodland, Cal.

REGISTERED JERSEY BULLS from register of merit cows. D. F. Conant, B. 5, Modesto.

CREAM CUP HERD—Registered Holsteins Pontiac bull calves. M. Holdridge, Modesto, Cal.

WILLOWWOOD JERSEY FARM—Breeder of registered Jerseys. C. G. McFarland, R. 2, Tulare.

REGISTERED JERSEY CATTLE—Young stock for sale. W. J. Hackett, Breeder, Ceres, Cal.

PALENDALE HERD of Reg. Holsteins. Young bulls for sale. J. A. Pelanda, Salida, Cal.

SUNNYSIDE HERD—Registered Holstein cattle. R. F. Guerin, B. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T J. Gilkerson, Stratford, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma.

A. R. O. REGISTERED HOLSTEIN BULLS for sale. Millbrae Dairy, Millbrae, Cal.

BREEDERS OF REGISTERED HOLSTEIN CATTLE—McAlister & Son, Chino, Cal.

BREEDER of Registered Holstein Cattle. Ernest Otto McClure, R. 2, Modesto, Cal.

REGISTERED JERSEY BULL two years old. Gentle, O. J. Ames, Oakdale, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route E, Modesto.

LINWOOD FARM—Registered Holsteins and Imported Guernseys, Santa Cruz, al.

BREEDERS OF HOLSTEIN-FRIESIAN cattle. Dirk Dairy Farm, Lemoore, Cal.

REGISTERED HOLSTEIN BULLS for sale. Write Dr. Stetson, Napa, Cal.

REGISTERED HOLSTEINS—Golden West Herd. D. & H. Rowles, Modesto.

H. H. LOCKE CO., Lockeford, Cal.—Choice young Jersey bulls for sale.

PACKWOOD FARM HERD for Holsteins. W. F. Mitchell, Visalia, Cal.

HORSES AND MULES.

PURE-BRED Registered Percherons—A few choice young stallions two years old; also two, three and four-year-old fillies, majority in foal, for sale. Los Altos Stock Farm, Los Altos, Cal

REGISTERED PERCHERONS—Grand and Reserve Champion mare at California State Fair 1913-1914. H. G. Learned, Stockton, Cal.

REGISTERED JACKS—Range raised, guaranteed satisfactory breeders. Field Jacks a specialty. Also REGISTERED SHIRE COLTS. Will trade for young mules, horses, or land. James W. McCord, 508 Douty St., Hanford, Cal. Phone M471J.

REGISTERED, PEDIGREED JACKS, JENNETS and Gaited Kentucky Saddle Horses. H. B. Thornberry, Box 679, Stockton, or Box 1117, Los Angeles, Cal.

FOR SALE—8 head of heavy 3-year-old mules, part of them broken, all of them halter broken. L. G. Brownell, Clay, Cal.

REGISTERED JACK and Percheron stallion for sale. Large Big boned. Sure breeders H B Johnson, Madison, Cal.

REGISTERED SHIRES—Black Hawk Stock Farm. Importers and Breeders. Easton & Ward, Proprietors, Burlingame, Cal.

BEEF CATTLE.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Shorthorns, Villager and Avondale strain. Yearling bulls for sale

SIMON-NEWMAN CO., Breeders of registered Herefords. Newman, Cal.

HOPLAND STOCK FARM—Registered Short-borns. Prices on application. Hopland, Cal.

HEREFORD BULLS—H. H. Gable, Diamond G. Ranch, Esparto, Cal.

SWINE.

I HAVE SOME EXTRA GOOD BOARS about one year old, now ready for service. These boars are the Big Type; strictly high class and fit to head any herd anywhere. They are large and have splendid length, depth and thickness. I also have some March pigs that are among the very choicest young boars that I have ever owned. Visitors say they are the best they ever saw anywhere. I also have some of the best weanling boars that it has ever been my pleasure to see. They have the size, the bams, the shoulders, the strong backs, the length and depth of body, with plenty of smoothness and mellowness—in fact, they have two good ends and a good middle. All the above-mentioned young boars are sired by my great herd boar Iowa Wonder, who is a son of A Wonder, the greatest Poland China boar living or dead. Their dams are all strictly first class, either directly from the "corn belt," or from sires and dams from the "corn belt." On account of extra demand I have had for this stock, I have no females for sale at present. Yours for the big type, Geo. A. Smith, Corcoran, Cal.

BILLIKEN HERD of pedigreed O. I. C. Swine; weaned pigs of both sexes for immediate shipment; pairs and trios mated, not akin. All from big type stock of extra heavy bone. Immunized against hog cholera, crated and shipped free. Write for descriptive circular and price list. C. B. Cunningham, Mills, Sacramento County, California.

BLUE RIBBON HERD DUROC-JERSEY HOGS—Bred Gilts a specialty. 15 bred now. 20 ready to breed. Sires and dams win all olue ribbons 1912, 1913, 1914 State fairs. 15 first, 13 seconds, 6 thirds, 7 fourths, 1 fifth. Will show 1915. For prices, write John P. Daggs, Modesto, Cal.

O. I. C. SWINE—Poor health is the reason for this offer. Will sell my herd of pure-bred O. I. C. Swine at prices that will turn them quick. Pigs two to eight months old, either sex. Write me for special prices. Every hog registered. G. H. Dubois, Box 13, San Martin, Cal.

BLUE-RIBBON HERD DUROC-JERSEY HOGS—Bred Gilts a specialty. 15 bred now. 20 ready to breed. Sires and dams win all blue ribbons 1912, 1913, 1914 State fairs. 15 first, 13 seconds, 6 thirds, 7 fourths, 1 fifth. Will show 1915. For prices, write John P. Daggs, Modesto, Cal.

BERKSHIRES—Headed by Roadmaster 2nd, junior champion Iowa State Fair. My females were winners at Iowa, Wisconsin and Minnesota State Fairs. Farm at San Mateo. Address W. M. Caruthers, 218 Hearst Bldg., San Francisco.

ROSE CREST BERKSHIRES of Masterpiece and Rival's Champion Best breeding. A choice lot of Fall and Spring boars; also a few sows and gilts. F. L. Hall, Perris, Cal.

ROSS' DUROCS—90 little fellows, farrowed since first of September. Will book orders for November delivery. Foundation stock from Daggs and Johnson herds. R. J. Ross, Boute B, Modesto.

LARGE YORKSHIRES—Gilts open or bred to our imported boar, winner at 1915 Canadian National and Ottawa shows. Choice Fall and Spring boars. Biverina Farm, Box 74, Route 2, Modesto, Cal.

RANCHO RUBINS DUROCS.—Winners of Gold Medals at State Fair, 1814. Also Sweepstakes on sow. Four first and four seconds at Fresno, 1915. March and April boars and gilts for sale. Elmer Lamb, Ceres, Cal.

LARGE HAMPSHIRE BOAR for sale. Cannot use him longer on my sows. Will sell cheap. Papers with bim. Also brood sows and young pigs. J. Barnhart, B. 2, Box 68, Turlock, Cal.

ANYONE WISHING TO START a herd of registered Berkshires, write to Alexander and Kellogg, Suisun, Cal. Our herd is of the best breeding and cholera immune.

REGISTERED POLAND-CHINAS—Prize-winning Nebraska stock. Large type. Young pigs for sale. Absolutely guaranteed. Hale I. Marsh, R. 4, Modesto, Cal.

REGISTERED BERKSHIRE SWINE—All ages, for sale. Grapewild Farm, Mayhews, Sacramento, Cal. A. B. Humphrey, Prop., P. O. Box P.

REGISTERED PUREBRED BERKSHIRE PIGS—(Weanlings) both sexes. Reasonable prices. Write for full information. J. E. Hall, Sebastopol, Cal.

BLATCHFORD'S PIG MEAL weans easily and safely; no trouble; no milk. Write for free folder, "The Safety Route from Pighood to Porkage." Coulson Co., Petaluma.

DEL DAYO FARM—(Old Haggin Bottom Ranch)—Breeders of Registered Berkshires, both sexes for sale. P. O. Box, 1140 Sacramento, Cal.

POLAND-CHINAS — 200 head. Fine individuals, weanlings to eight months. Satisfaction or money refunded. Geo. V. Beckman, Lodi.

REGISTERED DUROC-JERSEYS from choice Eastern sows. Two Fall boars and a fine lot of Spring pigs. S. S. Southworth, Napa, Cal.

POLAND CHINAS — Young stock; either sex. Write for pedigree. Reasonable prices. Edwd. A. Hall, Watsonville, Cal.

REGISTERED BERKSHIRES—Boar pigs, $10 each. Also aged boar, son of Double Premier. Extra fine. G. G. Wenger, Route 5, Modesto.

REGISTERED BERKHIRES—Six choice bred gilts. Weanling boar pigs. $10 each. Sow pigs, $12. J. M. Bomberger, Modesto.

PLAINFIELD STOCK FARM—Registered Berkshires and Durocs. Young stock for sale, both sexes. H. M. Bullard, Woodland, Cal.

A FEW PURE-BRED Duroc Boars sired by Col Keene of University Farm, Davis. Registered Eastern stock. N. P. Williams, Dixon, Cal.

REGISTERED DUROC-JERSEYS—Blue-ribbon stock. 8 gilts and one boar 9 months old. $20 each. H. E. Tong, Route 2, Modesto.

GLENVIEW POLAND-CHINAS—Baby pigs from best families for sale. From $15 up. Chas. R. Hanna, R. 3, Riverside, Cal.

REGISTERED BERKSHIRES—Bred sows, service boars and young stock. Alta Mesa Ranch, Route 18, Box 177, Los Altos, Cal.

IMPERIAL STOCK FARM BERKSHIRES—Quality and price guaranteed to satisfy. R. J. Merrill & Son, Morgan Hill, Cal.

FOR SALE—1 thoroughbred Duroc-Jersey Boar and 4 sows. Pedigrees furnished for same. Hamilton Bros., Rio Vista, Cal.

LINDEN STOCK FARM—Registered Berkshires, both sexes, all ages, best of breeding. Write for prices, Linden, Cal.

REGISTERED POLAND-CHINA SWINE—Prize winners. Finest stock in the State. $20 up. M. Bassett, Hanford.

REGISTERED DUROCS—Choice Spring boars and gilts. Weanlings November delivery H. E. Boudier & Son. Napa.

REGISTERED BERKSHIRES.—Old and young stock. Prolific strain. Labranza Ranch, Athlone, Merced Co., Cal.

REGISTERED DUROCS—Prize-winning stock. Weanling pigs a specialty. Yeneme Ranch, Butte City, Cal.

REGISTERED BERKSHIRE BOARS sired by State Fair winner for sale. Butte City Ranch, Butte City, Cal.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Duroc and Berkshire Swine. Weanlings for sale.

BERKSHIRES—Pedigreed Boars ready for service. Also pedigreed weanlings. C. H. Thompson, Novato, Cal.

BERKSHIRES—80 bead. Blue ribbon stock. All ages. Pure Gold Stock Farm, Elk Grove.

BLUE RIBBON DUROC-JERSEY BOARS—Farrowed last April. River Bend Farm, St. Helena, Cal.

REGISTERED POLAND-CHINA HOGS—Cholera immune. W F. Trewhitt, Hanford

HOPLAND STOCK FARM—Registered Bergshires Prices on application. Hopland, Cal.

POLAND-CHINAS—Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

FINE REGISTERED BERKSHIRE PIGS—Write or call Greenwood Ranch, R. D., Brentwood, Cal.

REGISTERED BERKSHIRES — Prize-winning stock. Sunnyside Stock Farm, Perkins, Cal.

DUROC-JERSEYS—Registered boars and gilts. John Decker & Sons, Turlock.

REGISTERED POLAND-CHINA HOGS—J. W. Wakefield, Acampo.

REGISTERED DUROC-JERSEY SWINE—Las Pederas Ranch, El Cajon, Cal. M. S. Allen, Manager.

REGISTERED POLAND-CHINAS—Large and medium type. Prize-winners. W. A. Young, Lodi, Cal.

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Lathrop, Calif.

Veterinary Queries and Replies.

(Answered by Dr. H. B. Wintringham, Petaluma, Cal.)

GARGET.

To the Editor: I have a young Jersey cow that has been milking about six months. About one month ago, she began giving bloody milk from one teat. Now another teat gives bloody also. I am feeding alfalfa hay alone. She is due to freshen Feb. 10, 1916.—G. R. A., Modesto.

[This is garget. Treatments for this condition are given in past numbers of the Press. Give potassium iodide in two-drachm doses three times a day for a week, then skip a week and give the same dose another week.]

SPAVIN.

To the Editor: I have a mare that has a swollen joint and is lame in the hind leg. She has never had it before and seems to be worse when she starts. Can you tell me cause and cure?—A subscriber, Gilroy.

[This is spavin. Have a competent veterinarian fire and blister the joint.]

RABBITS' EYES INFLAMED.

To the Editor: My rabbits' eyes seem to swell and they have fever about the head; but they eat up to the time they die, and die in awful pain. Coop dry and off the ground; feed rolled barley and dry alfalfa hay. After checking it, in about two or three months it appears again. They do not seem to have a cold, eyes do not run or nose; their eyes are the only symptoms.—F. L. L., Fillmore.

[This is an infection of the eyes, which evidently causes inflammation of the brain. Thoroughly disinfect your pens weekly. Use boric acid in the eyes.]

PIGS' LUNGS INFLAMED.

To the Editor: I have several pigs about five months old. Two of the number are troubled with breathing; there seems to be something wrong with their nose, especially troublesome while they eat. While they eat, they do not grow or do well. Can you tell me what ails them, what to do, for them, and if it be contagious?—Subscriber, Smith, Nev.

[This is chronic inflammation of the lungs. It will be best to dispose of them as they never will be thrifty. This trouble is prevented by careful attention to sanitation and hygiene.]

ERYSIPELAS IN HOGS.

To the Editor: We have lost over $300.00 worth of hogs in the last few weeks from what some veterinaries call "cholera," some call it "erysipelas," some "pneumonia." What does your veterinary say about the symptoms of "erysipelas" in hogs?—W. B. P., Oakdale.

[Erysipelas in hogs takes three forms. (1) Urticaria, the mildest form. After 1-2 days there is a general disturbance of health. There are sharp circumscribed swellings on various parts of the body dark red or violet in color. The center may become pale, but the borders retain their bright color. The temperature may rise up to 109 F. There is dullness, loss of appetite, thirst, constipation, inflamed eyes, and at times paralysis and nausea. The eruptions usually disappear after two to three days and the animal recovers. (2) Erysipelas Septicemia, the most frequent form. Sudden cessation of normal condition. Lie exhausted and do not resent handling. There is loss of appetite and vomiting. Temperature rises up to 108 F. and remains constant. Eyelids swollen and discharging. At first constipation then diarrhoea mixed with blood. Reddening of the skin rarely appears earlier than the second day. Exceptionally death results at the end of the first day or then only after 8-9 days. (3) Chronic Erysipelas. Appears that the acute form. At first there is an apparent improvement, but later the symptoms manifest themselves again and death usually results.

HORSE'S TEETH BAD.

To the Editor: I have a mare which refuses to eat hay of any kind. I have tried her on grain hay, also alfalfa, but she will only eat a little of the fine leaves or chaff. She seems to chew it in small pieces and leave it in the manger. She will eat barley, and does not show any symptoms of any kind with the exception that the saliva flows from her mouth nearly all the time and she has no life at all. She is falling off in flesh rapidly in spite of all I can do for her. She is doing very little work. Her kidneys and bowels seem to act in normal condition; I find nothing wrong with them. Wil you kindly tell me what I can do for her?—J. M. K., Campbell.

[There is something wrong with this animal's teeth. Have her mouth examined by a competent veterinarian.]

NO APPETITE FOR COW PEAS

To the Editor: This spring I planted some cow peas called "New Era" and advertised to be a good forage crop. The vines grew well and matured a heavy crop of beans but my stock won't eat them. Hogs and cattle have been running on barley and barley stubble and passing these cow peas every day from the time they were quite young until now when the pods are ripe, and have never touched either vine or pod. Is this a wrong variety or do stock have to become accustomed by starving them to it or mixing with other feed, etc.? I have always read that cow peas were fine forage for hogs and was disappointed that they did not eat them readily as I wanted a leguminous forage to use in rotation with barley. Can you suggest a variety which cows and hogs will eat or some other crop which will serve the same purpose? — Subscriber, King City.

[The trouble is in the hogs: not in the peas, for the New Era, like other varieties, has a good record for stock feeding. Your stock is of the stand-pat party; try sprinkling a little bran and see if the aroma of it will not give them more progressive demeanor. Cow peas are successfully grazed both green and dry and the manure and roots are just what you need to make more barley later.—Editors.]

Four two-year-old daughters of King Mead of Riverside, raised and developed on the A. W. Morris & Sons' ranch at Woodland, have just recently completed some splendid year's work. Aralia De Kol Mead made 696.49 pounds of fat from 16669 pounds milk; Riverside Seely Girl 2nd made 600.88 pounds fat from 14115.8 pounds of milk; Molly De Kol Mead made 456.54 pounds fat from 16454.5 pounds of milk; and Aralia Mead De Kol made 515.54 pounds fat from 1174.29 pounds milk.

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Second Consignment Sale.

Editor Pacific Rural Press: There has been a great deal of attention aroused in California over the second consignment sale to be held at Hanford Oct. 14 and 15. There will be a complete dispersion of the splendid herd of C. C. Lester of Gilroy, consisting of about 65 head, and the rest of the consignors have assured me that they are offering the very best animals out of their herd. There will be 25 A. R. O. cows with records up as high as 29.90 lbs. of butter in seven days, 30 daughters of A. R. O. cows, many of whom have records of from 22.50 lbs. to over 30 lbs., and there will be fifteen daughters of the best son of Colantha Johanna Lad, the great sire of milk producers, and more other high record cows and magnificent individuals than have ever been offered at any sale before in the West with the exception of the combination sale held at Sacramento.

I believe this Hanford sale will mark a new standard for consignment sales that will be hard to approach in the future. The first breeders' consignment sale at Hanford last year averaged $397 per head for 97 animals, which was by far the highest average of any of the numerous sales of purebred cattle held in the United States last fall. This year, however, there will be almost twice as many head sold and many times the number of high record cows.

Where else could a breeder go out and buy such magnificent individuals or high record and well bred cows? He can not import any stock from the East for months owing to the foot and mouth disease. Never before has such an opportunity been offered California buyers and it is up to them to take advantage of their chance to secure foundation stock for their herd with many 30 lb. possibilities. Because of the tightness in the money markets these breeders have been compelled to part with stock that they would not have sold before at any price and they have been forced to sell their best. The cream literally of seven of the leading herds in the West will be offered for sale to the highest bidders. — **J. W. McAlister, Jr.**



Contenta Creamcup 2nd.—An A. R. O. cow consigned by C. C. Lester.

SPECIFIC POINTS ON ALFALFA HAY.

To the Editor: A few years ago I was in the same quandary about making alfalfa hay as R. A. C. of Haywards, in your issue of September 18, and you gave me about the same sort of a bluff. Let me answer his questions:

Alfalfa should be raked into small windrows as soon as wilted. At this time of the year that will be 3 to 5 hours of bright sunlight behind the mower, depending on how heavy is the cutting. Along the coast where the air is damp, alfalfa takes still longer to wilt while in the Imperial Valley they use big windrows and follow 2 hours behind the mower—not even excepting the noon hour. If the hay is cut and raked in lands of about one-half day's work the windrows will be ready to bunch soon as raked. Small bunches of one forkful will be found most satisfactory, as handled this way the leaves will all be saved and the hay is more quickly moved. During the springtime it will be found that 24 hours behind the mower is close enough for the rake.

If stacked when almost but not quite dry,—that is the fork seems just a trifle sticky in the center of the cock,—it will be found when baled 3 weeks later, you have gained in weight, the sweat has retained the nice green color and stock likes it better than unstacked hay,—but don't stack too wet. C. A. B.

Fillmore.

[All right; take the pot. When you call our bluff that way it will always go.—Editors.]

Letting the lambs clean up the weeds and the lower leaves in the corn field is being practiced by Jas. Mee of St. Helena, with good results. He runs them in the corn field over two months before they bother the ears.

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[Written for Pacific Rural Press by Mrs. Susan Swaysgood.]

FATTENING POULTRY FOR THANKSGIVING.

Last week we talked of fattening chickens, and now by the time this paper gets to press it will be time to think about the turks for Thanksgiving.

It takes at least one month to give them that finish that makes all the difference between just "turkey" and a good, rich, fine flavored turkey that one remembers for several years.

Yards and Houses.—The first thing is to fix up some outside yard or corral for them, giving them as much room as is consistent with the idea in view, which is to reduce the muscle and convert it into soft meat, adding as much more to it in weight as is possible. Fix the perches as high as possible, for the higher they can perch the better they will do. The place is a little strange to them and they feel safer to be high up.

It is best to just put in birds as near one size and age as possible, they not only do better, but when you market them they bring a better price.

Feeds and Feeding.— The first day after you get them in the fence feed nothing at all except water, and it won't hurt if they fast two days; they will then be hungry enough to eat what you give them and eat it up with a relish. There is quite an art in learning just how much to feed without stalling the appetite. Change of food is one thing that helps to keep up the interest. At first they will not care for cooked feed, but after trying it a time or two you will have them waiting for it, provided you have not overfed them the meal before.

A kettle of potatoes boiled to a mush with plenty of water, then ground corn added until it is so thick you can't stir with a stick; mix in a big spoonful of salt, and set it aside to cool, and your turks will make a fine breakfast of it. At noon feed a soft moist mash mixed with sour milk if it can be had, corn meal, low-grade flour or middlings, and ground oats or bran. If you have not one thing, feed another, as there is no fast rule; the idea is to feed that which gives best results for money expended, if you have to buy everything. But if you have some one thing of your own produce, that's the thing to feed under the circumstances. Add a little salt to all feed, just enough to flavor as it adds a relish to the feed. For the night meal there is not anything better than corn; it lasts longer and keeps out cold better than small grain or soft feed. There are thousands of turkeys fed on corn alone, but we have not got very cheap corn here, and for my part I would prefer feeding a part soft feed to all corn, no matter how cheap it was.

During the last part of the feeding, say ten days before selling, half an ounce of tallow a day may be added to the boiled potatoes and ground corn feed. What is meant is half an ounce of tallow a day for each full-grown turkey that is being fattened. The time should be well gauged before commencing, because if kept up too long the appetite fails and the birds begin to lose.

Ducks and Geese may be fattened the same way, and in these cases any kind of vegetables are relished; ducks especially like boiled vegetables, and with this less corn is needed. Generally speaking, ducks can be fed without any special effort, because they are naturally big eaters. The one thing to remember in feeding or fattening ducks is that they are carnivorous; therefore, they must have animal food with the mash. Also keep in mind that in fattening ducks and geese they must be served with water at meals, but at no other time. Giving lots of water prevents them putting on fat and makes the flesh soft and insipid.

It is strange how hard it is to make people understand that these little things count in the accomplishing of their object. Many people feed ducks well, as they suppose; that is, they give them plenty of food, but they do not give any animal food, which is the one item that makes the other feed count in the growth and well-being of the ducks.

In feeding ducks beef-scrap you need not be afraid of liver trouble or any of the things that attack chickens through a too free use of meat; they appear to be almost impregnable in that line, and the more meat they get the quicker they grow and the better they fatten and make more weight. So even though beef-scrap is from 3 to 3½ cents a pound, it pays to feed to ducks because of the fact that they can utilize it to such good advantage.

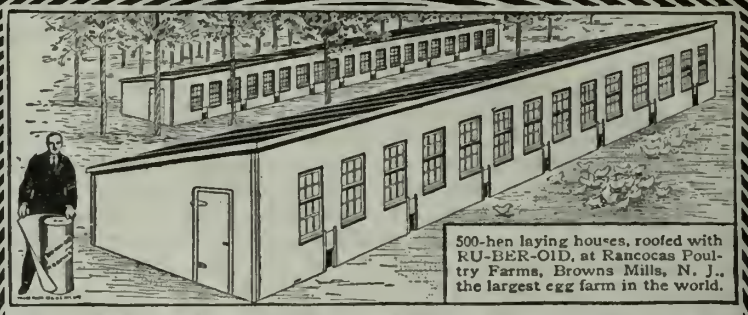
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Value of Room.—Geese are more vegetarian, but they must have either insect life or meat in some form to do well.

All authorities agree on one point concerning the value of penning up poultry, turkeys, ducks and geese that are to be fattened for table purposes. It is now conceded by all that in the close confinement of the coop fattening, if the period is over three to four weeks, the general health suffers, the birds lose their appetites and begin to fall off. Hence they must be sold while at their best to make the process a paying investment.

But if the turk, chicken, duck or goose is confined to a limited space, like a yard or corral, where they can get a little mild exercise, the general health is better, you can keep the appetite up better, and they put on flesh faster because of these conditions. So it is better to fix up some yard where plenty of fresh air can reach them and then feed a variety to suit.

At the Maine Experiment Station it was found that penned chickens made gains as great or greater than those obtained by similar methods in Europe, while those with a little liberty made still greater gains and appeared in every way as inviting. These two sets of experiments accord with my own experience, and as they are more in accord with nature I prefer the one that gives the birds a chance to stretch their legs and flap their wings without bruising them against the boards of a pen. Next week I will have some-



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Practically every farm home and small town home will buy after trying. One farmer who had never sold anything in his life before writes: "I sold 51 lamps the first seven days." Another says: "I disposed of 37 lamps out of 31 calls." Thousands who are coining money endorse the Aladdin just as strongly.

NO MONEY Required

We furnish capital to reliable men to get started. Ask for our distributor's plan, and learn how to make big money in unoccupied territory. Sample sent for 10 days FREE TRIAL.

MANTLE LAMP COMPANY, 82 Aladdin Building

Largest Kerosene (Coal Oil) Mantle Lamp House in the World

PORTLAND, ORE. CHICAGO, ILL. NEW YORK CITY MONTREAL or WINNIPEG, CAN.

Under the glass, that smooth looking spindle is as rough as sand-paper. But the ground mica in



MICA AXLE GREASE

fills up this microscopic roughness. It's a good lubricant itself and forms a smooth, slippery, heat-resisting, wear resisting coating. Thus a very little Mica Axle Grease applied occasionally preserves this lubricating film. Mica Axle Grease saves time, money and scored spindles. Dealers everywhere.

Standard Oil Company
(California)

thing to say on the manner of marketing and getting the best prices for the fattened birds.

* * *

Swiss Chard.—In the last issue somebody asked the value of Swiss chard—that is, the food value. It is not quite as high in protein as alfalfa, but it is richer in saccharine matter, having more sugar in it. Some years ago an enterprising Petaluman advertised it as something new, because he had, by cultivation and fertilization, got a big acreage from it. He sold the directions, and about four ounces of seed for a dollar. Of course, some of those who bought cried "faker." I bought, and was perfectly satisfied that the directions alone were worth the dollar, if I used them; if I said "Too much trouble!" and failed to use them, why, they were not worth five cents. The only blame I could see was in advertising something new that was as old as the hills; the man should have come out and said he would tell poultrymen how to grow several tons of this valuable green feed where before they could only grow a few stalks. It requires good cultivation, fertilizer and water.

Utility Stock at the Exposition.

[Written for Pacific Rural Press by Geo. H. Croley, Pres. Federated Poultry Assn. of California.]

LAST CALL.

In former issues we have endeavored to impress on the utility poultry keepers of California the importance of entering at least one pen of their best fowls in the utility class at the Panama-Pacific Exposition poultry show. In order to make it possible for everyone to enter in this division the entrance fee was placed at fifty cents per fowl regardless of the number—there is no limit to the number of birds any exhibitor may enter—which is much less than the cost of feeding, cooping, and handling, which is paid by the Exposition. This is a trifling expense compared to the valuable knowledge to be gained and which, in many cases, will mean thousands of dollars of added profits in the years to come.

The utility division will be judged by Walter Hogan, who will issue a score card for each bird. In order to help out those who have been undecided the Superintendent of Poultry has issued the following:

The Last Call. — Remember that the entries for the Panama-Pacific Poultry Show close on Friday, October 15. If you haven't time to write for entry blanks, phone or wire the variety, the sex and the number of each, and we will gladly reserve space for your birds. It is not at all necessary to select the individual birds until the date of shipment. For example, if you have two cockerels and you are in doubt as to which to enter, select a new band and enter a cockerel under that number. Then when you are ready to ship, place that band on the cockerel, and your cockerel's number will correspond with our books and with your original entry. It is absolutely necessary for you to send the name of your variety, and give the sex and band number of each at the time of entry, but you can hold these bands and place them on your birds at time of shipment. Be sure to keep a copy of your entry blank and get the correct band numbers on the right birds. If you haven't an entry blank send in an entry on your own letter heads. Give your name and address, the variety, the sex and the band numbers to correspond. A blank will be filled out for you and shipping tags sent. Birds will be received and cooped for exhibition on November 14th and 17th. The exhibition period and time occupied in judging and reshipping the birds will be from November 18th to 28th.

J. P. Burroughs of Dixon is shipping 500 gallons of milk to Oakland daily.

POULTRY NOTES.

At a recent mass meeting of the poultrymen of the Magnolia District the producers organized for mutual protection against thieves.

The sum of $250 has been raised by the Poultrymen's Association of Petaluma to be offered as a reward for the arrest of poultry thieves. This is to be combined with the $250 offered by the Sonoma County Poultrymen's Federation.

A publicity campaign urging the observance of egg day in California will be begun at an early date.

A scourge of round worms has developed among the fowls in the Petaluma district. Dr. Beach of the University Farm has been called on to devise some means for exterminating the pests.

Plans for the annual Modesto Poultry Show to be held at the Auditorium the first week of December, are reaching completion. In addition to the regular classes of exhibition birds the association has provided for a utility division in which the fowls will be judged by the Hogan system. A department devoted to the display of eggs will be a prominent feature of the show.

CRIPPLED CHICKENS.

To the Editor: What is your opinion sowing smutty wheat for seed; and is there any way of cleaning it? [We would not sow it, but it may be safe if well bluestoned before sowing.] Also, why should chicks hatched in incubator be crippled in the knee joint, often the bone is sticking through the flesh, while the ones hatched under hens seldom are?—Mrs. W. D. C., Laton.

[Answered by Geo. H. Croley.]

[The most common cause of the crippled condition of newly hatched chicks is overheating of the incubator during the hatching period. If this crippled condition develops in the brooder shortly after hatching, instead of in the incubator, it is due to overheated condition of the brooder floor. If the chicks are two or three weeks old before the trouble occurs it is due to lack of bone-making material in the food.]

A PROLIFIC TURKEY.

To the Editor: Who has a turkey that can beat this one? I think it is safe to say I have the champion turkey layer of the State.

The bird is mostly of the Mammoth Bronze breed and commenced laying at the age of seven months. From Dec. 30, 1914, to July 20 of this year she had laid a total of 165 eggs. She continued laying till molting time and has never set. The bird was hatched April 29, 1914, and at the age of eight months weighed 13½ lbs.

Undoubtedly some may think there is an exaggeration about the number of eggs laid, but such is not the case as a record is kept of all the birds. R. L. Isaac.

Oroville.

CALIFORNIA POULTRY SHOWS.

San Francisco, Nov. 18-28. International Poultry Show in connection with the Panama-Pacific Exposition; entries close Oct. 15; D. O. Lively, sec'y.; T. E. Quisenberry, superintendent.

Coalinga, Nov. 24-27. Third annual show of Coalinga Poultry Ass'n.; entries close Nov. 15; Chas. Miller, sec'y., and supt., Box 333, Coalinga.

Modesto, Dec. 1-4. Stanislaus Poultry Association's fifth annual central show; entries close Nov. 24; Jas. D. Yates, Sec'y., Modesto.

Pasadena, Dec 1-5. Annual show of the Pasadena Poultry and Pet Stock Association; entries close Nov. 20; M. D. Cartwright, Sec'y., 1719 Morton Ave.; J. D. Klefper, Sup't.

Porterville, Dec. 9-12. Porterville Poultry and Pet Stock Association, B. R. Nofziger, Sec'y.

Los Angeles, Jan. 5-11. Eleventh Annual Show Poultry Breeders' Association Southern California; entries close Dec. 24; Walter M. Ross, Sec'y., Glendale.

Sacramento, Jan. 14-18. California State Poultry Show, first annual exhibition held under auspices of the Sacramento Poultry Association; entries close Jan. 1. C. A. Wilkins, Sec'y, Box 1117, Sacramento.

Ontario, Jan. 27-8-9. Annual show of the Ontario-Upland Poultry & Pigeon Association. O. T. Nichols, 223 East Nevada St., Ontario, Sec'y.

Poultry Breeders Directory

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

BABY CHICKS—Orders booked now for immediate or Spring delivery. Get our vigorous little chicks and be assured of a plentiful supply of eggs next Spring. Our breeds—White and Brown Leghorns; Black Minorcas; Rhode Island Reds; Barred Rocks. Write for circular. We also breed Flemish Giant Rabbits, "the real Giants." Campbell Poultry Ranch, Campbell, Cal.

WHITE PLUMAGE POULTRY FARM and Hatchery. Sells Fall and Winter chicks. White Leghorns. Barred Rocks and Rhode Island Reds. Circular free. H. A. Schlotthauer, Exeter, Cal.

BARRED PLYMOUTH ROCKS—"The kind that Win and Lay." Choice stock for sale. Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

THE SANTA CLARA VALLEY HATCHERY can fill orders for 8 varieties of baby chicks and ducklings. J. A. Bihn, R. 6, San Jose, Cal.

CROLEY'S EVERLAY EGG MASH AND CROLEY'S SCRATCH FEED form a perfect balanced ration. Ask your dealer for them.

RHODE ISLANDS.—Two-dozen 1-year-old hens for sale. $18 dozen at once. Virginia Porter Hewitt, Hardwick, Cal.

TRAPNESTED LEGHORNS — White and Buff Stock. Eggs, chickens. Arthur R. Schroeder, Box 179E, Mountain View, Cal.

ORPINGTONS, BUFF AND WHITE, Black Minorcas and Carneux pigeons. Mrs. Susan Swaysgood, Pomona, Cal.

SILVER-SPANGLED HAMBURG COCKERELS for sale. Ready for mating. Tribble Nurseries, Elk Grove, Cal.

HARES AND RABBITS.

LEADING RABBITRY IN AMERICA—Flemish Giants and New Zealands. Cut your living expenses. Catalogue free. Empire Rabbitry, Empire, Cal.

BOSWORTH'S Imperial Red New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville, Cal.

BELGIAN HARES—Young stock for sale. Hurd Bros. St. Helena, Cal.

TURKEYS, DUCKS AND GEESE.

HART'S BRONZE TURKEYS—Limited number of last season's breeders for sale at reduced prices. Albert M. Hart, Clements, Cal. (Successor to Ed Hart.)

CHICKENS, DUCKS, GEESE, GUINEAS, PEA FOWL. Address Wm. A. French, 545 W. Park St., Stockton, Cal.

Classified Advertisements.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

WANTED.

PARTNER WANTED—Owner of 800 acres sub-irrigated bottom land desires to join party furnishing the cows for operating a dairy on shares. For particulars, apply Box 989, Pacific Rural Press.

WANTED—About seventy-five young men and women to enter the WESTERN NORMAL on August 30th, to prepare for teaching. Western Normal graduates secure and hold good positions. We assist graduates to secure good positions and promotion. We save you time and money. For information address, WESTERN NORMAL, J. R. HUMPHREYS, Principal, Stockton, Cal., Box 704.

MISCELLANEOUS.

APPLES—Buy direct from the producer. Belleflowers now ready. Bulk pack, 4 and 4½ tiers. Graded to Fancy, 70c per box F. O. B. Watsonville. Satisfaction guaranteed. Try a box or two. You will recommend them to your friends. Edward A. Hall, Watsonville, Cal.

APPLES! APPLES! All prepaid 150 miles. Large, extra fancy. Best varieties. 3 boxes $3.50. Orchard run, assorted sizes, 3 boxes, $2.75. No. 2, all purpose, assorted, 3 boxes. $2.00. Blue Ribbon Farm, Boute 3, Sebastopol, Cal.

SECOND HAND WATER PIPE and screw casing. New threads and couplings dipped in hot asphaltum. All guaranteed. Send us your inquiry. SHECTER PIPE WORKS, 306-8 Howard St., San Francisco.

BLACKSMITH'S SHOP COMPLETE—3 room house and screen porch. Two and a half-acre lot. Fine pumping plant. Good business. For sale reasonable. James Lockie, Chowchilla, Cal.

EXPERIENCED RANCH SUPERINTENDENT wants position—Fruit, grain, irrigation, farming and subdivision projects. Alfalfa and stock. Salary or percentage. Box 800, Rural Press.

LIVING EXPENSES REDUCED THROUGH CO-OPERATIVE BUYING—Write for catalogue and particulars. Pacific Co-operative League, D236 Commercial St., S. F.

"SMITHS' PAYS THE FREIGHT."—To reduce the high cost of living, send for our Wholesale to Consumer Catalog. SMITHS' CASH STORE, 106 Clay St., San Francisco.

FOR SALE—Monarch Steel Range with water back. First-class condition. Cost $75.00. Will sell for $25.00. Address G. I. Kinney, 2331 Russell St., Berkeley, Cal.

TRACTOR PLOWING by time or contract. Special plow for hard ground. J. W. Seitz, Mountain View, Cal.

POULTRY MANURE for sale. Write Arthur King, Route 1, San Luis Obispo.

BEES.

INSTRUCTION BOOKS and prices, bees, supplies, etc., free. Spencer Apiaries, Ventura, Cal.

LAND FOR SALE.

14 1/6 ACRES FOR SALE—14½ AT A SACRIFICE—$15,000—GENTLEMAN'S COUNTRY HOME.—One of the best paying, highly improved orchards in Santa Clara Valley. Situated southwest corner Steven's Creek road and Cypress avenue. Four miles west of San Jose, on Palo Alto and Saratoga trolley. Beautiful house, garden, ornamental shade trees; fine stable; garage; fruit house; tank house; electric motor. Extensive modern poultry plant. Complete drying equipment. Scientifically developed orchard. Big regular producer. ½ prunes; ½ apricots. Family orchard. Record crops every year. Ideal money-making country home. Business interests call the owner elsewhere. This ranch has been appraised at and is worth $20,000. Mortgage of $10,000 can remain; three years. L. L. Norton, owner, 530 Phelan Bldg., San Francisco.

CALIFORNIA LAND—Money-making little farms, high class, low priced properties in all counties. Call or write the oldest land office in California; we will save you 25 to 50 per cent. C. M. WOOSTER CO., 303 Phelan Building, S. F. Catalogue free.

WANTED to hear from woner of good farm for sale. Send cash price and description. D. F. Bush, Minneapolis, Minn.

WANTED GOOD FARM, or unimproved land from owner. H. L. Downing, 145 Palace Bldg., Minneapolis, Minn.

FOR RENT—300 acres of alfalfa land. Apply to J. H. Glide, care West Sacramento Co., Sacramento, Cal.

TREES AND NURSERY STOCK.

WALNUT TREES—Eureka and El Monte varieties a specialty; also Franquette and Placentia. Write for prices and description of stock. Personal inspection invited. Eureka Walnut Nursery, Montebello, Cal.

TREES — LATE VALENCIAS — NAVELS — GRAPE FRUIT—Positively finest grown. Fall planting. 12½c in the tree row. Phone Whittier Line 5544. Brunson Nursery Co., Santa Fe Springs, Cal.

RECLEANED ALFALFA SEED, excellent color, very high germination, first-class quality, 19c per pound, F. O. B. your railroad station. Send for sample. E. F. Sanguinetti, Yuma, Ariz.

STRAWBERRY PLANTS—Layer plants now ready. 55 varieties, including the FALL BEARING Asparagus Roots, etc. Catalog free. J. Keifford Hall, Route 5, Rhodesdale, Md.



Now is the Time to Feed
Coulson's Egg Food

to your pullets as well as your hens, commencing at the age of three months.

Write for free book "Chickens" from shell to market.

COULSON CO.
Petaluma, Cal.

HOPLAND STOCK FARM
HOPLAND, CAL.

Standard Bred S. C. White Leghorn Cockerels, selected for Breeders. **Four months old, $12 per dozen; Yearling Hens, $12 per dozen.** Standard Bred White Plymouth Rock, Fishel and Owen Farm Strains **Direct.** Hens one and two years old $18 to $24 per dozen. Four to five months' old pullets, $18 per dozen. Selected Cockerels and Cock Birds, $5 each and up.

The Home Circle.

Conducted by Rena Shattuck.

SONG OF THE SPARROW.

I'm only a little sparrow,
A bird of low degree;
My life is of little value,
But the dear Lord cares for me.

He gives me a coat of feathers,
It is very plain, I know,
Without a speck of crimson,
For it was not made for show.

But it keeps me warm in winter,
And it shields me from the rain;
Were it bordered with gold and purple,
Perhaps it would make me vain.

I have no barn or storehouse,
I neither sow nor reap;
God gives me a sparrow's portion,
And never a seed to keep.

I just fold my wings at nightfall,
Wherever I happen to be,
For the Father is always watching—
No harm can happen me.

I am only a little sparrow,
A bird of low degree,
But I know that the Father loves me,
Dost thou know His love for thee?

LEGEND OF THE FLOWERS.

The Fuschia.

The mid-summer fairies were in high glee, for the winter had given place to spring, and that delightful season had passed leaving them the long, beautiful summer months to frolic in. Gaily they danced over the velvety grass, their tiny feet hardly touching the smooth sward, while the younger ones played games. They stole the Foxgloves and held boxing matches, challenged each other with the Sword-ferns, all in playful combat. They chased the Wandering Jew so that in his flight he grew into the path where there was great danger of stepping on him. They stole the Bachelor's-button, and they rang the Canterbury Bells and the Blue Bells, and waved the Flags until they were tired. They did worse than that—they stole the Lady-slipper away from Black-eyed Susan, made the Bride Rose nod to the Giant of Battle, while the Papa Gantier Rose shook with indignation at her unmaidenly conduct. They even had their fun with the Baby Roses, making the Wiid Dog Fennel scare them with his antics. The Mourning Bride shook her head sadly, but they hid behind the Touch-me-not and the Maid-of the-Mist. They laughed as they sipped all the dew from the Honeysuckle and wondered what the big brown velvety bees would do next day when for their morning supply of honey. This was all wrong, and Jack-in-the-Pulpit preached a sermon to them and told them it was not only a sin but a shame. After awhile they tired of this and sought some new way to amuse themselves.

"I have an idea," said a bright little Fairy, who seemed to be a leader.

"What is it?" chorused the rest.

"Run that big, ugly-looking spider out of his house and take his web. Some of you Fairies get to work and make chains of it, others go out and bring in some glow-worms and we'll fasten the web-chains on to them and hang them on the trees for lanterns. Fly now, but don't hurt them for we'll turn them loose before the morning breaks."

"If you don't, they will always be prisoners, for if Aurora, the Goddess of the Morning, catches us here we can never return to our own dear Fairyland, and the little glow-worms must always be lanterns," said a spry Fairy.

"Make haste, then," she replied, as she sat down on a toadstool and waited for them.

There was a great fluttering of wings as they flew to do her bidding.

"Fine!" said the Fairy, as the little glow-worm lanterns swayed in the trees from their silken chains. Now, let us do something else. 'Lots of fun in it,' as I have heard those earth children say."

"What is it?"

"Catch some fireflies and we'll hitch them to Magnolias and have chariot races."

"You're so clever," said a tiny Fairy, fanning herself with a palm-leaf. "I've flown so fast, and some of those glow-worms made such a fuss, one of them refused to shine one bit and I just let him drop on a Johnny-jump-up. My, how Johnny jumped!"

We've got the Fire-flies and the Magnolias for chariots; now what shall we do?" said the Fairies, as they held the fire-flies prisoners by their wings.

"Get the Love-tangle-vine and harness them to the Magnolias. You must have six fire-flies to each chariot. Take some of that fine ribbon-grass and splice together for reins."

"All ready," said the Fairies, as they held the fire-flies emiting flashes of light, and who seemed to rather enjoy the novelty of making steeds of themselves for the Fairies' enjoyment.

"Jump into the chariots, all of you that can; the rest of you will have to take your turn another night. I will take this team of big, brilliant fellows, and you must all follow me. Steer clear of the Dusty Miller, or you might get your wings covered with dust."

Round and round they circled, now close to the ground, then over the highest tree-tops. They waked some of the birds from their slumbers in the trees and they twittered and grumbled as they got further back in the leaves. An owl turned his great eyes upon them and cried, "Whoo! Whoo!"

"Fairies," cried the leader.

"Fairies, indeed! I'm the only one privileged to stay awake all night. I've eaten many birds and mice, and I'd crunch the bones of those fairies if they had any."

"Haste, haste, the dawn is breaking,
Haste, haste, the God of morn is waking"—

Came warning from Fairyland, and all the rest of the Fairies flew within the portals. The Morning Glories turned their little trumpets and gave also a silvery warning. The Fairies jumped from one chariot, and with the Sword-fern cut the harness of the Love-tangle-vine, releasing the fire-flies, then they flew toward the Elf-land where all the Elves and Fairies were awaiting them.

"One more race among the tree-tops 'round that tall elm," said the leader, but once was not enough; round and round they went. One last call rang out like a silver lute:

"Haste, haste, the dawn is breaking,
Haste, haste, the God of Morn is waking."

And as they turned the fire-flies and flew toward the portals of Fairyland, Aurora, the Goddess of Morn, awoke and threw her first bars of crimson across the sky. The portals were closed forever to them, and they heard the faint voices of their companions as they cried:

"Too late, too late, you cannot enter now!"

Then came the voice of their Queen, who cried in grief:

"Save yourselves from destruction; jump up and hang on that green bush and I'll turn you into a flower."

And they did so, and in a minute from every branch dangled a Fairy. They still have their small red feet, and white or purple dresses, with little red overskirts, red bodice, and tiny green caps. Today they are called Fuschias, but the Fairies would tell you they were little Fiaries who failed to obey, so now they must always be flowers and hang by their heads to a green bush.

—Polly Larkin.

GARDEN LORE.

"Flowers are the sweetest things God ever made and forgot to put a soul into."

By planting your stocks or gilly-flowers, as they are commonly known, in October you will have flowers for December. A leading florist is my authority for the above information. He stated that many folks failed to get good results in stocks on account of planting them too late.

The leaves of the trees will be falling soon and the neat housekeeper may object to the litter, but don't destroy them; sweep them into a corner and cover lightly with earth to keep them from blowing away. There is nothing much better for your plants than a good leaf loam.

For your window garden begonias and ferns come first. How rich with their glossy leaves and dainty blossoms the begonias are, and how restful the lacey green ferns! Still a window filled with coleus of which there are many varieties, are a constant joy, with their beautiful variegated leaves. To get the best results you should never allow them to flower. Pick off the buds.

The amaranth, a native of East India, is a new house plant, vieing for favor with the coleus, as it, too, relies upon its variegated foliage to win the attraction of the flower lover; but it is not so graceful, having stiff, glossy leaves.

FASHION TALK.

Short jackets are on the wane.

African brown is one of the new and beautiful shades for the fall season.

Black velveteen is favored more for the fall coats than velvet or plush. Many of them are trimmed with narrow bands of fur and have high, close-fitting collars.

Sheath gowns are out completely, but a clever little lady who would rather be out of the world than out of fashion turned her discarded gown upside down, inserted pleated panels in the sides, and appeared in a quite up-to-date costume.

The fad for bead necklaces amounts to almost a craze with many. One lady, who is a walking fashion-plate, has a bead necklace for every costume. She takes two fine needles with long threads, knotting the two ends together; each needle takes up a bead, then the needles are brought through a third bead, then two and then one again, etc., stringing at intervals a beautiful ornamental bead.

THE PATHWAY OF A JOYOUS LIFE.

What is happiness? What conduces to the joyous state of mind? For joy is but the supreme inflorescence of happiness.

The first muse is health, says Emerson, and even health is largely dependent upon peace of mind. It is not, perhaps, far out of the way, then, to see in peace of mind the very initial condition of happiness. And peace of mind depends solely, I should say, on the consciousness of having met each obligation of our lives, financial, social, spiritual, as adequately as lay within our power. That is not the superstructure; that is the foundation. Then what follows? First, there follows freedom of spirit. One is no longer in mental chains, as he is when held by the dead weight of things undone; he is set free, and freedom of spirit alone is exhilaration. Secondly, this sense of entire release is followed by a great inflow of power. The reward, so to speak, of achievement is the power to undertake another and a still greater one.—Lilian Whiting in August Nautilus.

IT IS FREE

Our New Catalog is Ready for Mailing.

It is filled with specials on the highest obtainable grade of groceries. The kind of specials that mean a big saving for you. Send for it now. Don't let a stamp stand between you and the opportunity to make a big saving on your groceries. At least INVESTIGATE. Send for it now. You may forget it tomorrow.

FREESE & CO.
Mail Order Grocers
WHOLESALE AND RETAIL.
S. E. Cor. Ellis and Divisadero Sts.
San Francisco, Cal.

16 years' experience back of each order. Satisfaction GUARANTEED. WE PAY THE FREIGHT FOR 100 MILES, and make reasonable allowances for all orders beyond that distance.

DUTCH BULBS

Our Holland Bulbs have arrived in good condition and are ready for your inspection. Ask us to mail you our Bulb Catalog containing Cultural Directions—Free.

Morris and Snow Seed Co. 439 S. Main Street Los Angeles, California.

HOUSEHOLD HINTS.

Every mother can lighten her household burdens by impressing upon the children from their very babyhood up that there is a place for everything. They can be taught to be orderly and helpful just as well as to leave their playthings scattered over the floor, and their books, hats and coats thrown down wherever they happen to stop on their return from school for mother to pick up. Mother needs many a lift along the road, little lads and lassies, and it will lighten her work tremendously if you will help cheerfully and willingly in keeping things orderly without her having to remind you of it.

In France, instead of using starch on table napkins after they are washed and dried and ready to be ironed, they are dipped in boiling water and partially wrung out between cloths. They are then rapidly ironed with as hot a flatiron as possible without burning them, and become beautifully stiff and glossy.

To remove ink stains from cloth or other absorbent substances, dissolve four ounces of citric acid in two quarts of water that has been previously boiled and cooled. Then add six to eight ounces of a strong, strained solution of borax.

It will save all sorts of trouble and cause the dove of peace to hover over your house if a tablet is hung in a handy place in the kitchen and every time you discover an article is out or getting low, jot it down. There won't be that hurrying and scurrying round to find out what things are needed the next time some one is going to town. All you have to do is to consult your tablet.

SCHOOL NOTES.

It should be the aim of every teacher to inspire a love of flowers and growing plants in the children They can be interested and will take a real pride in beautifying the school grounds with flowers and vines as well as the window gardens. One of our country teachers with an eye for the beautiful converted the barren yard of the school into a wilderness of flowers; the vines ran rampant over the fences; there was a wealth of roses, carnations, etc., beside the hanging baskets and window plants. A restful picture to the passer-by! During the long vacation the scholars, of their own accord, took turns caring for the plants.

Grade school boys of the Lincoln school, La Crosse, Wis., are getting the most practical kind of manual training work this fall. They are remodeling and equipping the new manual training rooms at the school, as part of their course in manual arts. Incidentally the boys are saving the Board of Education's fund about $300, which without their work would be expended in the construction. A room at the school has been dismantled, the floor lowered about two feet by excavation, and stringers put down. The boys are now at work laying a new hardwood floor for the room. When that is completed a partition built dividing the room, and the walls whitewashed, the boys are to make the benches and other equipment, turning out that part of the work at the high school shops.

CULINARY SUGGESTIONS.

Salads were first made in Holland and Belgium.

A quick salad is made of a slice of firm chilled tomato, one slice of canned pineapple topped with a ball of Roquefort cheese, and a tablespoonful of mayonnaise or boiled dressing.

When baking fish, if you will lay a couple of slices of bacon in the pan under the fish it will never stick to the pan and will enhance the flavor of the fish.

A salmon loaf is just about as easy and tempting an emergency dish as you can find. Take one can of red salmon, removing all the bones and skin. Mix it with cracker crumbs, a tablespoonful of melted butter, chopped parsley, and a lightly beaten egg, cover with fresh or condensed milk and bake from fifteen to twenty minutes. Serve with slices of lemon.

Sliced tomatoes served in crisp lettuce leaves with thin slices of crisp bacon laid round it makes another quick and appetizing dish.

Coffee Icing.—Melt two cupfuls of sugar and boil until it forms a string from the spoon. Stand the saucepan in a dish of cold water until the sugar begins to form on the sides, and then work in a cupful of strong coffee, pressing it against the sides of the saucepan with a spoon. When the mass granulates, it is ready to use as icing.

Coffee Cake.—Cream half a cupful of butter with two cupfuls of sugar. Add half a teaspoonful of cloves, and a saltspoonful each of mace and cinnamon, with a cupful of molasses. Beat for five minutes, and add the creamy yolks of three eggs and a cupful of strong coffee. Then alternately add five cupfuls of sifted flour and the whites of three eggs, beaten stiff, a teaspoonful of saleratus dissolved in hot water. Lastly stir in a quarter of a pound of shredded citron, and half a pound each of raisins and currants. This will make two loaves. It should be kept covered after it is baked, as it loses flavor if left uncovered.

Bacon Griddle Cakes.—Three cups of flour, 3 level teaspoonfuls of baking powder, 1 teaspoonful of salt sifted together. Add slowly enough sweet milk to make a batter of the proper consistency and beat in two eggs. For each pancake frizzle 4 or 5 pieces of bacon about an inch square on the griddle and when partly cooked pour over them enough of the batter to make a cake about 5 inches across. Serve with maple or any other good syrup and plenty of butter. They are also good with brown sugar syrup.

SWATTED.

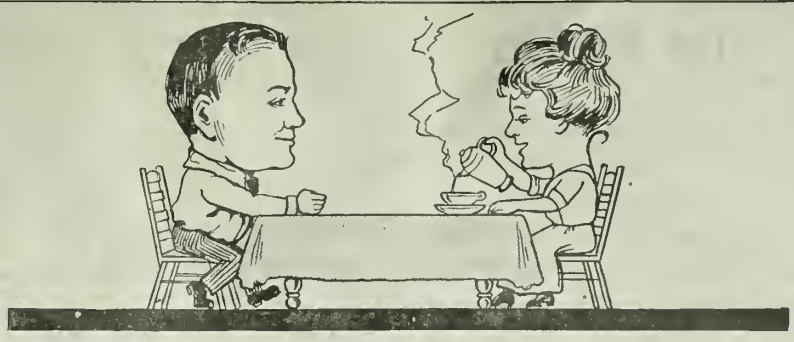
Museum Manager: "Where's the human fly?"

Attendant: "Can't perform today. His wife's been swatting him."—Baltimore American.

ATTENTION, CHICKEN FANCIERS.

Would you figure a chicken's birthday from the day the egg is laid or from the day on which it is hatched?

Young man, select a business in which the styles change every year.



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STRONG MEN STRONG

Ghirardelli's Ground Chocolate is an inimitable blend of finest cocoa and pure sugar.

Scientists who have made exhaustive analyses of all sorts of food products say that cocoa products are self-sufficient as a nutriment, possessing all properties needed not only for sustaining life but also to repair bodily waste. Cocoa contains a larger percentage of nutriment than even the egg.

Drink a cup of Ghirardelli's Ground Chocolate daily. It's easily and quickly made. It's delicious. It makes the strong stronger.

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In ½-lb., 1-lb. and 3-lb. hermetically sealed cans.
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BIRD OR WOMAN?

For Sale—A human talking parrot for sale cheap. Mrs. Emma Hessler. —From the Globe, Arizona, Record.

BRIGHT THINGS.

"Lend me your ears," read Marjorie from the good book. "That's the foolishest thing I ever read. Whoever heard of any one lending their ear?"

"Are you a Christian?" asked the evangelist.

"I have always been a Christian."

"Ah, I see—converted in your childhood."

"No; my mother married a man by the name of Christian."

A woman who had been presented with some Belgian hares telephoned her mistress: "I can't work for you any longer, for I have been given seven belching hares, and they have to be fed three times a day."

"You claim to be an artist. Why don't you paint a rabbit on the top of your friend's bald head and some one might take it for a hare," said the jealous suitor.

"Did you read that mad dog story in the paper?"

"No; but I heard it was very snappy."

It is better to have loved and lost than to pay alimony.

Big business men are paid for telling lies—kids are licked for it.

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75 Lbs. for $3
100 Lbs. for $4

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12 cans Hawaiian Pineapple	1.09
1 lb. Ghirardelli's Chocolate	.26
1 lb. Pure Ground Pepper	.33
12 cans Corn (standard)	.93
10 bars Fels-Naptha Soap	.47
1 3 lb. bar Imported Castile	34
1 Cedar Mop, $1 size	.65

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143-149 Main Street
San Francisco, Calif.



The Markets.

(Unless otherwise noted, prices quoted are f. o. b. San Francisco.)

San Francisco, Oct. 6, 1915.

WHEAT.

The wheat market appears to be largely dependent on the Balkan situation, and the present unsettled conditions there have caused a sharp advance in the East, which partly reflected here, though this market shows no very active trading.

(Wholesale Prices, S. F.)

Cal. Club., ctl.	$1.65 @1.67½
Northern Bluestem	1.70 @1.75
Northern Club	1.65 @1.67½
Northern Red	1.55 @1.65

BARLEY.

Export business is not especially active, but there is some inquiry, and the market remains steady, with buyers and sellers generally apart in their views.

Shipping, ctl.	$1.25 @1.30
Choice Feed, ctl.	1.17½ @1.22½

OATS.

Local prices show no quotable change, though the tone of the market continues strong. Red oats for seed are in active demand, and white are also moving well.

Black, ctl.	$1.85@2.00
Red Feed	1.25@1.30
Red Seed	1.50@1.75
White	1.30@1.40

CORN.

Corn receives little attention here at present. Eastern grades are lower, with heavy offerings at primary markets; and with limited demand the sorghum grains have dropped sharply.

Eastern Yellow, ctl.	$1.60@1.65
Milo Maize	1.35@1.45
Kaffir	1.45@1.55

BEANS.

The bean market is still very unsettled and irregular, and every handler has his own ideas about values, though it is expected that conditions will settle down in a few weeks with larger offerings of new stock. Bayos and blackeyes stand about as before, the latter being rather easy, with a heavy crop. Cranberry beans are a little higher. Horse beans are uncertain, as a great amount of the stock is wormy and cannot be shipped, and the amount of sound stock available is unknown. While the California crop of whites is heavy, Michigan has only half a crop, and the market is very firm at an advance. Limas are quoted higher, but are weak and plentiful, and an early reaction is expected.

(On wharf, San Francisco.)

Bayos, per ctl	$4.10@4.20
Blackeyes	2.75@2.90
Cranberry Beans	4.10@4.20
Horse Beans	2.25@3.00
Small Whites	4.25@4.50
Large Whites	4.20@4.40
Pink	3.25@3.50
Limas	4.50@4.60
Red Kidney	5.25@5.50
Mexican Reds	4.50@4.75

SEEDS.

The seed list has been changed completely, to be more in line with the current needs of growers. The movement is gradually gathering a headway, but is not yet very active.

(Wholesale prices, San Francisco.)

Alfalfa, per lb.	17 @18 c
Alba	30 c
Melilotus, Indica	6 c
Bur Clover	11 c
Oregon Vetch	4¼ @ 4½c
Soy Beans	6 c
Canada Peas	5½ @ 6 c
Sudan Grass	40 c

HAY.

Values show no further change, but the tendency is strongly upward, to meet the storage expenses that will soon have to be added to the price of hay in the field, as current arrivals are light. Practically all the crop is under cover. Choice and fancy hay is quite scarce and eagerly sought; the latter, in light bales, sells up to $16 per ton without difficulty. Dealers appear very bullish, and report an unusually strong consuming demand through the state. Little alfalfa is arriving, and most of it poor; good hay sells readily at top figure.

No. 1 Wheat	$12.00@14.00
do No. 2	8.50@11.00
Tame Oats	9.00@13.50
Wild Oats	7.00@10.00
Alfalfa	10.00@13.00
Stock Hay	6.00@ 7.00
Straw, per bale	.25@ .40

FEEDSTUFFS.

Bran and middlings are quoted a little lower, but there is no change of consequence otherwise. Rolled barley and oats are fairly firm.

(Wholesale prices per ton, carload lots, San Francisco.)

Beet Pulp, per ton	$20.00@21.00
Alfalfa Meal, ton	16.00@19.00
Alfalfa Molasses Meal per ton	19.00@20.00
Bran, per ton	26.00@27.00
Oilcake Meal	38.00@39.00
Cocoanut Cake or Meal	23.00@25.00
Cracked Corn	41.00@42.00
Middlings	32.00@33.00
Rolled Barley	25.50@26.50
Rolled Oats	29.00@31.00

VEGETABLES.

Offerings in several lines have been lighter for the last few days, resulting in a slight stiffening in the general range of values. String and lima beans have been marked up a little, with very little of desirable quality offered. The top figure on bell peppers has been raised, and tomatoes are doing somewhat better, though offerings are still quite plentiful. Summer squash, also, is offered in large quantities. Cucumbers and okra have been marked up sharply; while eggplant is easy, and celery is lower. Green corn is higher, and finds a fairly good demand, though there is little fancy stock on hand.

(Wholesale Prices, San Francisco.)

String Beans	1½@ 3 c
Lima Beans	2 @ 2½c
Peppers, bell, box	40 @65 c
Tomatoes, lug	35 @55 c
Cucumbers, lug	35 @65 c
Summer Squash, lug	25 @40 c
Green Corn, sack	1.25@1.75
Okra, lug	35 @65 c
Eggplant, lug	30 @50 c
Celery, doz	10 @20 c

POTATOES AND ONIONS.

Sweets are down again, with additional arrivals. Salinas potatoes are steadily held, though Deltas are lower. Onions have advanced sharply; curtailment of export demand has been against them, but a large quantity have gone east. Garlic also is higher.

Salinas Burbanks	$1.25@1.60
Delta Burbanks	75 @90 c
Sweet Potatoes, ctl.	1.25@1.35
Onions ctl.,	75 @85 c
Garlic, per lb., new	8 @10 c

POULTRY.

Business is keeping up in good shape, but arrivals are too heavy to permit any distinct firmness in the market; in fact, roosters are rather easy. Values, however, show no quotable change.

Turkeys, old, lb	17 @19 c
do, young	23 @25 c
Broilers, 15 lbs to doz and less, lb	26 @27 c
do, over 15 lbs to doz	22 @24 c
Fryers	19 @20 c
Hens, extra, per lb	17 @18 c
Small Hens, per lb	14 @15 c
Smooth Young Roosters per lb	19 @20 c
Squabs, per doz	2.00@4.00
Geese, per pair	2.00@2.50
Ducks, young, lb	13 @14 c
Old	12 @13 c
Belgian Hares	8 @ 9 c

BUTTER.

Extras have scored a cent advance for the week, lower grades being unchanged. Arrivals have been falling off lately, and with a continued active local demand the tendency is upward.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	26	26	26	26½	27	27
Prime Firsts	25	25	25	25	26	25
Firsts	24	24	24	24	24	24

EGGS.

The market continues quite firm, with diminishing arrivals from nearby producing points. Storage stock has been coming out for some time, and is now being sold on the Exchange.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	40	40	40	42	42	42
Sel. Pul.	37	37	36½	37½	37	37

CHEESE.

Offerings of all descriptions have been rather light of late, and everything has been closely absorbed. Y. A.'s are higher, and Monterey cheese shares in the general advance.

Y. A.'s, fancy	16c
Fancy Calif. flats, per lb	16c
Calif. Cheddar flats, per lb	16c
Monterey Cheese	17c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	37	37	38	38	38	38
Cheese	12	12	12	12	12	12

DECIDUOUS FRUITS.

Prices in a good many lines have been marked up this week, as arrivals are diminishing. This is noted in the berry department, both strawberries and blackberries being higher. Prunes and figs are no longer obtainable at last week's inside figure, and Bartlett pears are firm at a sharp advance, with stock about cleaned up. Gravenstein and Alexander apples are cleaned up, while Bellflowers and Newtowns are doing fairly well. Quinces are cheaper. Few peaches are appearing, and attractive stock is higher. Casabas have advanced sharply, and cantaloupes from the river district are doing better. Seedless grapes are scarce and high, as growers are drying everything possible. Other descriptions are coming in fairly well in lugs, but bring good prices on the average.

(Sales in S. F. Market.)

Huckleberries, lb	4 @ 6 c
Strawberries, chest	$4.00@6.00
Blackberries, chest	5.00@6.00
Prunes, crate	1.25
Figs, bx., double layer	50c
Pears, Bartlett, box	1.75@2.00
Peaches, small box	25 @60 c
Lugs	50 @75 c
Apples, Newtown	.85@1.00
Belleflowers	.75@1.00
Quinces, box	40 @60 c
Pomegranates, small bx	.50@1.00
Persimmons, box	1.00@1.25
Casabas, doz	.60@1.00
Persian Cantaloupes, doz	1.00@2.00
Cantaloupes, lug	75 c
Watermelons, doz	1.00@2.50
Grapes, Thompson Seedless, small box	1.00@1.25
Malaga, lugs	1.00
Tokay, lug	75 @90 c
Muscats, lug	1.00@1.25
Black, lugs	65 @75 c

DRIED FRUITS.

Dried fruits, in common with most Pacific Coast food products, have moved slowly so far this season. This is ascribed to various causes; by some to a misapprehension that prices will be lower, by others to lack of cash to carry the stock. However, it is quite evident that the season's requirements have by no means been covered, as shown by new inquiries coming in; and for this reason, with no unwieldy stock here in most lines, a better movement at advancing prices is anticipated. The prune situation in particular is unusual. The local top price has been marked up a little, and Santa Clara growers are holding for much higher prices, and to some extent realizing their expectations; while plenty of stock is reported in other districts at the inside figure. This condition is perhaps due to the extreme shortage of the 30-40 size, which packers have realized for some time and growers are now beginning to appreciate. Anyone having a good proportion of that size in his crop should be justified in demanding a premium. On the other hand, extreme small sizes, over 100's, are also scarce, and but little cheaper than the medium counts. Peaches are still quiet, but a factor not generally realized is the proportion of the crop allowed to go to waste; and a gradually increasing movement, with no decline and perhaps a slight advance, is expected. Apricots are well out of growers' hands; and the apple crop in many districts of the country is light, causing a stiffening of evaporated apples.

(Prices to Growers.)

1915 crop.

Apples	6½ @6¾c
Apricots, per lb	8 @9 c
Figs, white	4 @4½c
Black	2 @3 c
Calimyrna	5½ @6 c
Prunes	3⅜ @4 c
Peaches	2¾ @3¼c
Pears	5 @8 c

San Jose Prices to Growers for the 1915 Crop:

Apricots	8½ @9 c
Prunes, subject to dist	3¾ @4¼c
Peaches	2½ @3 c
Pears	5 @8 c

Raisins: Associated Prices, 1915 crop, in effect on and after September 28, 1915:

Fancy seeded, No. 16	7 c
Fancy seeded, No. 12	5⅝c
Fancy bulk seeded	6 c
Choice seeded, No. 16	6¾c
Choice seeded, No. 12	5½c
Choice bulk seeded	5¾c

Seeded raisins, Sun Maid quality, 36 to case, per case ... $2.45

Seeded raisins, Sun Maid quality, 48 to case, per case ... 3.25

Loose raisins in 50-pound boxes:

1-crown loose Muscatels	6 c
2-crown loose Muscatels	5½c
3-crown loose Muscatels	5¾c
4-crown loose Muscatels	6 c

CITRUS FRUITS.

Shipments of citrus fruits to the east from California are going out at the rate of about 30 cars of valencias and 17 of lemons daily. The eastern auctions are still paying fair prices for the fruit, in spite of foreign competion. It is estimated that there were in California 1200 cars of valencia oranges on Oct. 1st. At the New York auction Monday, Oct. 4th, valencias averaged from $2.95 to $7 per box. Lemons brought from $3 to $3.30. At Chicago the same day the auctions averaged from $5.75 to $6 for valencias and $2.75 to $3.75 for lemons.

There is little new to report in the local market. The demand for oranges is limited, but arrivals also are very light and values are well maintained. Grapefruit and lemons stands as before, with occasional sales of strictly fancy stock at a slight advance.

(Wholesale prices, San Francisco.)

Oranges, Valencias, bx	$3.75@4.75
Grapefruit, seedless, bx.	2.50@3.00
Fancy	3.00@4.00
Lemons, box	1.50@2.75

HONEY.

The local demand is slow, but the export demand has taken up about all the surplus for the present, preventing any decided weakness. Sup-

StandardBooks on California Agriculture

California Fruits and How to Grow Them. Wickson $3.00

California Vegetables in Garden and Field. Wickson $2.00

One Thousand Questions in California Agriculture Answered. Wickson $1.50

California Flowers, Trees, Shrubs and Vines. Wickson $1.50

California Poultry Practice. Swaysgood $1.00

California Hog Book. Guilford $2.00

Productive Feeding of Farm Animals.. Woll $1.50

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plies at California shipping points are believed to be pretty well out of the way.

Water White, comb	11	@12½c
Amber	10	@11 c
Water White, extracted	6	@ 7 c
Light Amber	3	@ 4 c
Dark	2½	@ 3 c

NUTS.

The feature of most interest is the announcement of prices by the Walnut Growers' Association, as quoted below. The figures, which are considerably below those of last year in line with the large quantity and only fair quality of the crop, appear to be satisfactory to the trade, though it is too early to tell much about the movement. The Almond Exchange would seem to be well justified in naming comparatively low prices, as even at these figures the trade has been in no hurry to buy. There has been a very substantial movement, but it is still evident that many buyers are holding to a hand-to-mouth policy, apparently owing to tightness of money. Shipments are going out rapidly, and it is too early to tell what proportion of the yield has been disposed of.

(Exchange prices f. o. b. common shipping point.)

Almonds (1915):	
Nonpareil	15 c
IXL	13½c
Ne Plus Ultra	13 c
Drakes	11 c
Languedocs	11 c
Walnuts (1915):	
Budded, per lb	17 c
No. 1	13.6c
No. 2	10.6c
Jumbo	16.6c

LIVE STOCK.

Little change is noted this week. Hogs seem to have reached a fairly steady level; at least there is no present indication of further decline; while prices on light calves and young lambs have been shaded a little.

(Delivered S. F.)

Steers, No. 1	6¼	@6½c
No. 2	6	@6¼c
Cows and Heifers, No. 1	5½	@5¾c
No. 2	5¼	@5½c
Bulls and stags	4	@5 c
Calves: light		8 c
Medium		7½c
Heavy	6	@7 c
Hogs, grain-fed:		
200 to 300 lbs		6 c
100 to 200 lbs		6½c
Prime Wethers	6	@6¼c
Ewes	4¾	@5 c
Suckling lamps	7	@7¼c

DRESSED MEATS.

Steers	10	@10½c
Veals, large	12½	@13 c
Small	14	@15 c
Prime Wethers	11	@11½c
Ewes	10½	@11 c
Suckling lambs	12	@13 c
Hogs	11	@11½c

HOPS.

Buyers are still taking only slight interest in the new crop, and few sales have been closed within the last few days. A good deal, however, was contracted in advance, and numerous export shipments are coming through from the Sacramento Valley.

1915 crop ..... 10@12c

WOOL.

The movement of fall wool has not yet gotten well under way, business being limited to a few scattered sales at about the former range of prices.

Humboldt and Mendocino	21@28c
Sacramento Valley, lb	18@23c
Southern, year's staple	15@18c
Six months	14@16c
Fall clip:	
San Joaquin	8@10c
Northern	10@14c

HORSES.

The local market continues to drag, with little interest on the part of buyers, and no great amount of desirable stock coming in. Another large lot of miscellaneous stock from a local stable was dumped on the market this week. Business is said to be much more active at Los Angeles and in the country, where there is a good steady demand for good horses of all weights; and values have been marked up again. The market, in fact, is in a rather uncertain position; it is undoubtedly feeling the effect of the continued drain of export buying, and better horses are needed to take the place of those shipped out. A stiffer market is expected, but it is too early to tell how far such a tendency will go.

(Approximate values at San Francisco, based on auction sales.)

Drafters, 1700 lbs and up	$250@300
Drafters, 1550 to 1650 lbs	150@200
Chunks, 1350 to 1500 lbs	150@225
Wagon horses, 1050 to 1350 lbs	110@150
Green Mountain range horses, 950 to 1200 lbs.	20@ 75
Farm workers	50@100

HIDES.

Steers, wet, per lb	17¼	@17¾c
dry	29	@30 c
Cows, wet	17¼	@17¾c
dry	29	@30 c
Calf, wet	17¾	@18¾c
dry	31	@33 c
Horse Hides, wet, each	$1.00	@ 3.50
dry, each	.75	@2.25
Sheepskins—		
Long wool	1.00	@175
Short wool	50	@85c

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SPECIAL DECIDUOUS MARKET REPORT.

By J. L. Nagle.

San Francisco, Oct. 4, 1915.

During the past week shipments of Tokays have continued heavy and although some districts are rapidly cleaning up, others seem to continue to contribute with weather conditions remaining favorable, Tokay shipments should continue for the next three weeks. The quality of grapes from all districts continues good, otherwise the markets would unquestionably be more seriously affected. We look for a decided improvement in conditions in about a week or ten days, provided shipments are lighter, principally because the peach shipments from the Eastern states will be cleaned up in about ten days, and the report from Almeria, Spain, indicates that the shipments of foregin grapes will not be as heavy to America as was at first anticipated, though the market is about $1.50 higher per barrel than at this time last year.

Practically all the Bartlett Pear shipments have been cleaned up. Pears that are now being shipped East are from the Santa Clara Valley and Monterey districts.

The following prices have ruled for the week:

New York.—Bartlett Pears, averaged $2.47; Malaga Grapes, 95c.; Tokay, $1.05.

Boston.—Tokay Grapes, averaged $1.07; Malaga, $1.25.

Chicago.—Malaga Grapes, averaged 98c.; Thompson Seedless, $1.; Tokay, 95c.; Bartlett Pears, $3.40.

Total shipments to date 11,894¼. Total shipments same date, 1914, 12,429¼.

GROWERS SHOULD HOLD PRUNES.

The growers' committee met Saturday Oct. 2, and made the following report:

Packers are actively engaged in picking up what prunes they can at prices ranging from 3¾ for small fruit up to from 4 to 4½ for larger sizes. These figures are lower than your committee, in view of all the fact of the case, considers the grower entitled to, and the committee is gratified to hear that those of the growers who have held their fruit thus far are increasingly inclined to hold for a higher basis.

We knew that orders on a large scale are coming in at the present time from countries which hitherto have not been our customers in addition to fresh orders from neutral European countries, while the eastern markets in the United States have yet to lay in their supply for the season. In view of the heavy sales already made by the packers, on which they must make deliveries, and the new orders now coming in and still to come, it is simply up to those of the growers who are holding their fruit to insist on receiving the basis for which they are holding.

We once more call the attention of the growers to the apricot situation this season. Before the fruit was ready for sale we were assured that 6 to 6½ was as much as they possibly could be sold for, yet the bulk of the 'cots sold for better prices than that, and they now range from 8½ to 9½c per pound. There is no reason why packers' statements as to prunes are any more accurate than as to apricots, and there is no conceivable reason why prunes shall not follow the same course. It is now a well-known fact that the crop is far short of our early estimates and that the sizes are not running as large as was expected.

We urge growers who are in need of money for running expenses to see their banker and explain their needs to them and we are confident they will find ready assistance.

J. H. BONE, Chairman.
H. O. H. SHELLEY, Secretary.

San Francisco, Calif.,
October 1st, 1915.

The California Almond Growers' Exchange advanced to members on 1915 almonds, between September 13th and 30th, $170,385.12—the bulk going out in 11 days' time.

CALIFORNIA ALMOND GROWERS' EXCHANGE.
311 California Street, San Francisco.

Publisher's Dep't.

This enlarged issue of the Rural Press is necessary to carry the account of the draft horse contest and show now on at the P. P. I. E., also to give space to the announcements of horse breeders. We believe the reading matter as well as advertisements will be valuable to most of our readers.

The "California Hog Book" has found a place for itself, if the criticisms we are receiving are any criterion. Here is what N. M. Gordon of the Swine World of Chicago writes us: "It is a splendid work and I feel sure that it will fill a long felt want and do much good for the hog industry in the western country. It will be of particular interest to the eastern breeders and agricultural colleges, because such information has never been compiled before to my knowledge."

"California Garden-Flowers," by E. J. Wickson; published by the Pacific Rural Press, San Francisco, Cal. This work is the result of the author's many years of experience and research in the hortlcultral field. The extent of the material includes a wide range, but the subject is so handled that from the point of expense and scientific study, the context is within reach of all. The author's chief object is to promote a love of flowers and interest in their growing, as a beautiful environment of every home, and which most people can secure.—Western Journal of Education.

Our lady readers will notice that the Home Circle department in this issue is in new hands. We trust that the new addition to our staff will be given a cordial reception and that women from all over California will make the same use of this department as their husbands do of other parts of the paper. If you have questions to ask pertaining to your household work do not hesitate to write to our "Home Circle" editor.

WITH THE LIVE STOCK MEN.

(Continued from page 359.)

are being made to keep 12 registered brood sows.

E. C. Curtiss of Napa bought a Duroc sow from the Unlversity Farm at Davis a little over a year ago; and counting the pigs retained on the ranch for breeding purposes, together with those sold, this one sow has netted him a gross sum of $1000.

On Sept. 27 D. M. Swim of Vacaville drove up to Davis in his Ford and loaded into a specially made crate, California Price, a registered Poland-China boar bred and ralsed by the University, who weighed 218 pounds at 6⅔ months.

"Put your foot down"



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THE PACIFIC RURAL PRESS

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Alfalfa and Water Saved the Orchard.

Alfalfa, continuously grown, loosened this man's orchard soil so it could be irrigated; increased the fruit and tree growth, did the cultivation, and has furnished crops that paid the expense of irrigation by pumping. Plenty of water is absolutely necessary.

[Written for Pacific Rural Press.]

TEN years ago, F. H. Brubaker's orchard soil persistently packed together airtight and watertight in spite of him. It had been cropped to grain since the early days. He would plow and cultivate; then when he irrigated, whether with a slow stream or a fast one, soaking a long time or short, the water would not go below the plowed dirt; pretty soon it would cement that together. Part of the soil was adobe, part silt, some loam, sand, and gravel in streaks, as deposited in the old river bed near Corning. Eight feet down was permanently water-bearing gravel. The trees weren't giving much satisfaction.

He decided to let alfalfa cultivate his orchard and open it up to the water. The alfalfa roots would loosen the soil all the way down, without injuring the tree roots. Five acres were sowed, right up to the trees. That five acres was disked up last winter for the first time. It had yielded four or five crops a year, which paid for the pump irrigation; and had cultivated the soil into such a condition that water soaks down easily three feet, and probably down to water level. The trees responded delightedly with more growth and heavier crops, as soon as the alfalfa got well started, and ever since. The prunes and apricots made new trees; the peaches in that block were in worse condition and never fully recovered.

When he disked the five acres under last winter, he sowed barley to plow up, and will sow alfalfa again.



CLOUDY SOIL LACKING HUMUS.

Orchard Soil, which would not take water nor raise a good crop of fruit, has been made porous by several years' continued use of alfalfa. This eliminates cultivation, but requires more water. The alfalfa pays for the water.

Entire Orchard Sowed.—During the past ten years, the rest of the 17-acre orchard of apricots, prunes, peaches, and olives has been sown to alfalfa, and will continue so. The last block of peaches planted was 165 trees, set out in January last, where 8-year alfalfa had been plowed up. Barley and alfalfa were seeded between the young trees and in August a couple of pails of peaches were picked.

Frequent Irrigation Absolutely Necessary.—"I never saw the equal of alfalfa and plenty of water to make trees grow and bear," says Mr. Brubaker. "I usually irrigate every week in hot weather and see that every tree gets its share. Water must stand two to four inches deep all over the checks. Irrigations must not be over 10 days apart in summer or 14 days in spring." North winds sometimes sap out the moisture from trees and alfalfa very suddenly in that country—hence it is necessary to have water handy. He remarks that if a tree wilts, it checks the new growth. If such growth is a foot long, 10 days may be required to get it started again. A few such checks may lose a season's advantage and stunt the tree. It is the same with the alfalfa—if its new growth is checked, there will be only half a crop at that cutting. It must always have plenty of moisture, but never drown out.

Complicates Fruit Picking.—Handling the alfalfa at fruit harvest is somewhat of a problem. Under the peaches, it is often necessary to wallow down a lot of growth. But the fruit is large enough not to be lost. Under the prunes, alfalfa must be cut close just when the fruit begins to drop. The stubble does not hurt prunes, but makes some extra work picking. The main part of the crop, however, is knocked off onto blankets spread under the trees. This facilitates picking anyway.

In cutting the alfalfa, the rounds are made so that the sickle bar always runs next to the trees, so the horses do not brush the branches. Alfalfa is not sowed close up to young trees, but is allowed to grow up to them at about three years old, when their roots have started well, and when the trees are big enough to avoid in mowing. Usually the alfalfa is cut in early morning and raked into bunches after noon. Even then it is sometimes burned into "sticks" by the north wind.

Sowing the Cover Crop.—One dry winter, alfalfa sown in January resulted in the finest kind of a stand; but May is a good time and April is all right. The ground must be moist so alfalfa will be four or five inches high before irrigation is needed. The land is graded and irrigated, then plowed and worked up fine, in the fall or winter, and allowed to settle firm into a fine seedbed. When ready to sow alfalfa, the surface is loosened with a harrow and the seed sown. In irrigating the place now, the water soaks in so fast that a large stream is necessary to avoid waterlogging the near trees and alfalfa before the far ones are wet. This would wash seed and soil badly if applied before the alfalfa is well established. The pioneering of this rancher has resulted in a large number of Corning ranchers adopting the same system to loosen and fertilize their soil. Some of the wiser ones are getting stock to eat the alfalfa and save additional fertility.

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California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at 5 p. m., October 12, 1915.

STATIONS	Rainfall Data: Past Week	Rainfall Data: Seasonal To Date	Rainfall Data: Normal To Date	Temperature Data: Max'm	Temperature Data: Min'm
Eureka	0	.37	2.31	62	40
Red Bluff	0	0	1.32	90	48
Sacramento	0	.01	.69	90	48
San Francisco	0	.01	.63	72	48
San Jose	0	.04	.65	80	38
Fresno	0	0	.56	92	50
Independence	0	.10	.54	84	38
San Luis Obispo	0	.01	.73	80	46
Los Angeles	0	0	.22	84	52
San Diego	0	0	.22	70	54

THE WEEK

The days are fine. The Panama-Pacific Exposition is rolling in something like eighty thousand admissions a day. It has passed the twelve million mark, and bids fair to go to sixteen millions before December 4. The San Diego Exposition is doing nobly also, and we have yet to see a single person who is not glad that he made the trip to salute the southern beauty. California has surely done well to flash out these two triumphs of civilization upon the dark cloud of European barbarism. The western hemisphere is the light of the world.

The days are fine. The Santa Clara prophet has not been able to squeeze a drop out of the quadrature of Jupiter. As said before, we do not give a whoop that he has not. All that we care for is a prophet who gives us water when we need it. Fortunately, the Oregon prophet, who does not know a quadrature from a quadrillion, comes through on the right line. His name is Rehart, and here is his prophecy:

"According to my method of forecasting the weather, the spring and summer up to July 15th indicated a dry year. Ever since, though, indications point to a wet year. Specifically, the character of the season for 1915-16 for the Pacific Coast should be a dry fall, with only light precipitation until about the month of December, when the winter storms begin and continue late, with numerous heavy storms and precipitation considerably above the normal for the season."

The propheey is fine. Just a light precipitation during the fall: enough for land-working and early planting and seeding as required—and then plenty of rain, continued late to fill the heads and keep the pasturage green. Evidently we are in for a good year. California agriculture is wide awake and is daily revealing new phases of development. A good crop year will furnish just the setting which is most desirable for the various forms of activity which are now advancing into the view of the world as characteristically Californian.

What to Do for Rural Credit.

Readers are asking us "what to do about rural credit." The question has direct reference no doubt to the duty of voting upon rural credit—item No. 5 on the ballot for the election of October 26. There are many other considerations involved in the question, but the only duty which is immediately impending is to vote "yes" on item No. 5. The first thing to do about rural credit is to get it. In this respect all questions as to how rural credit should be arranged for and used are like the recipes for cooking and serving a duck: it is proverbial that the first thing to do is to get the duck. We have no sympathy with the views of a few old gentlemen who seem to think that they have something in their noddles which is just as good as divine foresight, and in the exercise of it feel called upon to warn people against the whole outfit of rural credit. They have posted themselves around the marsh and are firing their howitzers, with the idea of searing away the duck, so that shallow-minded, hungry people shall not be choked by the bones of it. Some of their proclamations are amusing, we must admit, but they have no more relation to rural credit than a tire-puncture on a country road has to do with duck-shooting. Take this, as an instance: "If the farmer can borrow money on mortgage at 3 per cent, could he not invest in foreign securities at 6 per cent, and would not that eventuate in reducing capital in this state?" The answer to all such "arguments" is that they are not even "facts." Every scheme of rural credit in the world, so far as we know, makes it impossible to invest the money in anything whatever except the farm work, agencies, or improvements which are specified in the application for it. How is this made impossible? By watching by government or association representatives. It is fixed so tight that even a dull borrower can not be beaten in a horse trade. He cannot even get the money to buy an animal until the beast has passed qualified inspection and pronounced sound and worth the money. Every other proposed expenditure is similarly specified and safeguarded. Therefore these timorous old gentlemen, who have perhaps done some plunging in their day, should be assured that rural credit does not mean money for gambling or sharking. There is absolutely no reason to fear that farmers' thrift will be reduced by free borrowing, because there will be no free borrowing. Money can only be had for specific acts of production, and only in such amount as the quality of the man and of the land justify—and both are most diligently looked into. And experience has shown, almost everywhere except in the United States, that money thus loaned is practically never lost—at least, had not been lost until the present wretched war began to knock the bottom out of everything in countries which wisely promoted production had made the most prosperous in the world.

Playing with Fire.

While we are perfectly sure that the foregoing is a warranted statement and contains the germ of movement and enterprise which are safe and sure to assist experienced and qualified farmers to get, on reasonable terms, the capital which they need to secure the materials and improvements which are essential to rational and economic production, we may frankly admit that we do not like the company we seem to be in, in favoring the adoption of the rural credit amendment. We read this in a San Francisco daily journal:

The Advertising Association yesterday undertook a campaign to secure the passage of a State bond issue of $250,000,000, this fund to be available for rural credits to assist worthy farmers to buy and improve land in this State. We must not be afraid of big figures. It will take all of $250,000,000, and perhaps more, to finance adequately this movement for the number and kind of people we want.

Furthermore, these credits, as proved by the experience of other countries, are perfectly safe. There is little risk in advancing money to a successful farmer to the extent of ten times the cash capital he has to invest, letting him refund in small payments extending over a long period of years."

Financially speaking, this is stealing "the livery of the court of heaven to serve the devil in." The first paragraph presents a proposition which no rational being would vote for. It is a wild, untried and alarming financial scheme—not because its dimensions might not be ultimately realized through cautious evolutionary development, but because such a plunge as that would give the State financial heart-failure, if it should ever be approved by the people, which it probably can never be. If the Advertising Association should desire to kill the rural credit amendment (which we assume it does not) it could not undertake a more fatal propaganda.

Why the Livery Is a Misfit.

The second paragraph above includes the mis-applied livery. Taken by itself the second paragraph is a true statement, but there is little warrant in experience to make the second paragraph support the first. No State nor country has ever plunged into rural credit that way. Every State or country has proceeded rationally and slowly, learning by experience and gaining public confidence and support. Governments have cautiously used public funds. and have authorized guaranteed bond offerings for private investment, in amounts relatively small as compared with that for which the Advertising Association proposes to secure State credit—with no local experience to all. Of course it may be argued that the British government has now expended more than half a billion dollars in making landless people in Ireland owners of lands, but that movement began fifty years ago, in a small way, and the present liberal act, based upon thirty years' experience, is now twelve years old. It was a good evolutionary process. New Zealand and Australia are rightly advanced as sources from which we have much to learn in this business, but their systems have been several years in development and we doubt if they have expended a tenth as much as called for in California by the Advertising Association. It may be argued that we can safely combine all the wisdom which these countries have learned, and all the money which they have succeeded in placing, in one great development uplift for California. That seems to be the view of the Advertising Association. We dissent. Such a proposition has power to destroy, not to build up. And the very first thing it will destroy will be the chance to do anything rational. If the people of California really believe that such a scheme is back of the rural credit amendment they

will kill it dead as a mackerel at the election of October 26th—and they ought to.

What Will the Amendment Really Do?

It seems to us very important that all who desire to see California farming financed reasonably and economically, and with the latest safety devices which a world's experience has demonstrated to be effective, should satisfy themselves and their friends that the proposed amendment to the constitution does not admit the wild-cats which we have been condemning. There was nothing of this kind proposed to the last Legislature. The legislation for which it was seen to be necessary to amend the constitution was sane and perfectly safeguarded. It is necessary that the State should safely guarantee it—just as all other governments have done, without losses and with great advantage to producers, as decades of experience have demonstrated. The constitution of California prohibits the State from using its credit for its own development, through the desire to give its producing citizens a fair deal and protection against speculative and capitalistic exactions. It is an unreasonable prohibition, and to understand how it came into the constitution one must remember that the constitution was made at a time when prohibitions were popular, and a number of them, which have wrought hardship to agriculture, were enforced because the farmers of that day had not voting strength to annul them. It became then, from the very day of its adoption, a document which needed amendment—as its subsequent history has amply proven. It should also be fully understood that the present amendment does not create any system of rural credit: it simply opens the way for the citizens of the State, through their constituted representatives in the legislative and executive departments, to create such a system as they see fit and to pledge State participation therein, as a world's experience has found to be necessary. What shall be the features of such a system, to best meet the needs of Californians, is left to be determined, in a leisurely and deliberative way, in the course of subsequent legislation, and this amendment simply and only leaves Californians free to devise and adopt such a system as they approve. It should also be carefully noted that the amendment does not remove the general prohibition against the State lending its credit; it simply lifts the bar from the one subject of rural credit provisions. If any other interest desires freedom from the constitutional prohibition, it must seek it in the same way and show similar beneficence.

The Question of Special Privilege.

Some of the nice old gentlemen, with whose views we have no sympathy, as stated above, seem to be badly scared lest the farmers get something which other people do not have. We are not fraid, because it has always seemed to be the other way around; still the objection should be briefly noted. One of these patriarchs, perhaps the nicest old Californian we know—present company always excepted—has recently written this: "If the actual farmer, or would-be farmer, is to have money loaned to him below market value, why should not the merchant, the miner, and the mechanic all enjoy the same privilege?"

This conscientious old party often stands up so straight that he leans backwards, and that is just what he is doing in the sentence we have quoted. The fact is that the merchant and manufacturer, who have security anything like as good as the responsible farmer has, can borrow money for one-half to two-thirds of the interest the farmer has to pay—and that is one of the best reasons why the State should try to even things up by setting a proper estimate on the value of agricultural security and responsibility. The farmer does not demand that he should have money below market value; he contends that market value to him shall be the same as to other people who have as good security. At present there is no market value; there is one price to the handler and speculator; there is another price, much greater, to the producer. There is no market value; there is a varying schedule of rates according to the prejudice of the lender. The farmer is not contending to get special privilege; he is fighting to do away with special privilege, which is against him. If the miner is in the same sinking condition, let him climb into the boat also. Vote for the amendment!

Queries and Replies.

Querists must give name and address

Eucalyptus Citriodora.

To the Editor: I wish that you would kindly let me know what Eucalyptus trees you think would do the best up here, as I wish to plant out a few for shade. Do you know anything about the citriodora? It is a large tree with spreading limbs; trunk and limbs are white. There are a great many in the valley about Sacramento, but it may be too cold up here for them.—E. W. G., Ukiah.

The citriodora, from its performance so far, would hardly be called a large tree, for a eucalypt. The best record we have is 60 feet at twelve years old—but it is counted large in Australia, where it has attained great stature with great age. We doubt if you have seen very large ones near Sacramento; the largest are in Southern California in nearly frostless places. Citriodora is presumably too tender to serve your purpose. The species which is among the most hardy and which has the characters which you describe is viminalis. This one is quite common in Central California. It is a large, branching, handsome tree, but counted inferior for fuel purposes.

Rather Scant Fertilization.

To the Editor: I have been wondering whether a six-foot strip of alfalfa in the center of the rows one way would furnish sufficient fertilizer in an apricot orchard. I would let it grow continuously and if it died in any place, plant it over again. We have no water in August and September, but plenty in the spring.—J. W. C., Hemet.

Alfalfa does not add all forms of plant food to the soil. Some substances it takes from the soil; and though its growth processes may render them more easily available to other plants, the most it can do in that line does not actually add more of these substances to the soil. If then the alfalfa is grown as a crop and sold away from the land in the form of hay, the supply of these substances is constantly being reduced by growing alfalfa in this way. But alfalfa and other legumes do add nitrogen by their ability to take it from the air through the action of bacteria on their roots. For this reason you cannot count upon alfalfa as restoring to the soil all the plant food which the apricot tree takes from it in its wood growth and fruit crop. All except nitrogen must be made good by other means of fertilization. If alfalfa is grown without cutting, or is cut and the cuttings allowed to remain and decay, the plant will, theoretically, not take anything off the land, but, at the same time, it adds nothing but nitrogen to it. If the soil is naturally richly supplied with all other plant foods, then the addition of nitrogen, by alfalfa growing or otherwise, is a rational proceeding. If only a small addition is needed to the natural supply of nitrogen, then a narrow strip of alfalfa may be enough, but this is probably not often the case.

A more important consideration for you is whether you have soil-moisture enough to grow the strip, supply the waste by evaporation and meet the needs of the trees. If you have no water in the autumn, the probability is that the alfalfa will rob the trees during that period, weaken the next year's fruit buds and perhaps cause die-back of branches if not the death of the trees in extreme cases. Rational enrichment of the soil consists in growing a legume when there is naturally more water in the soil than the tree can use, or when the soil can be kept adequately moist by irrigation. Therefore a winter-growing legume, and not alfalfa, is indicated in your case. However, there is a farther consideration. If you can grow enough alfalfa hay on that strip to spread as a mulch over all the rest of the ground between the trees and thus substitute a mulch for summer cultivation, you may save enough moisture by checking evaporation to more than compensate for that which the alfalfa uses in its growth. Thus your strip proposition brings you up against the latest problem in the summer handling of California fruit lands. This problem is now awaiting demonstration.

Grape "Coulure."

To the Editor: I am sending you a sample of grapes from my vineyard. What is the matter with them? What remedy should I employ? I had a promise of 100 tons from 20 acres, but there will be less than one-third that. The vines are vigorous and free from mildew. All vineyards in this valley are in like condition.—L. W., Watsonville.

It is "coulure" or failure to develop perfect berries and it is believed to be due to conditions interfering with pollination of the bloom. It has been unusually bad this year. In the case of Muscats there are reports that late pruning has assisted pollination in some way and that late pruned vines have borne better clusters than early pruned. Otherwise no treatment has been suggested except the use of sulphur to prevent early mildew attacks. But coulure is not conditioned upon mildew.

Black Aphis of Cherry.

To the Editor: I send leaves taken from cherry trees in my orchard in Mountain View. There are about ten to twelve trees affected. Kindly let me know what can be done with the trees.—V. S., San Francisco.

The leaves have been turned into a mass of corruption by the black aphis of the cherry. To kill all you can of the eggs, which will be deposited on the twigs this fall, spray during the winter with lime, sulphur, or miscible oil sprays—hitting all the twigs and spurs. Watch the trees closely as the leaves appear and as soon as you see the lice, spray with tobacco extract (40%), 1 lb. to 70 gallons of water, and repeat as the pests continue to appear. Success depends largely upon striking early in the season and striking often.

Asiatic Roots for California Pears.

To get a good foundation for a pear tree is one of the most important matters in our commercial fruit growing, and a careful effort to get at the truth of this measure should be considered by all pear growers.

At the last Fruit Growers' Convention A. L. Wisker of Grass Valley presented a paper outlining his inquiry as to the standing of Japanese seedling roots in blight resistance. We present below what seem to us the most salient points of his contribution to knowledge of this subject:

When a single grower suffers a loss of $25,000 from pear blight in one season, argument is unnecessary to show that the situation is serious—particularly in view of the fact that California' pear industry, according to the last census, produced more money than that of any other state in the Union (viz., $1,660,963) notwithstanding the fact that her nearest rival—New York—had 50 per cent more bearing trees and in total number had just twice as many as California. Michigan is close behind this state in number of bearing trees and in total number, but the value of her crop was less than one-third the value of ours. Collectively these states produce nearly half the pears of the entire nation. Assuredly these figures warrant the assertion that if it pays to fight pear-blight in any part of the country it will pay double well to do so here, where the industry is more profitable than in either of the other states where production approaches that of California.

What May be Expected.—The absolute eradication of pear-blight cannot be hoped for, but blight-control is a reasonable and practical expectation. Splendid work is now being done by scientific and practical investigators in the study of both preventive and remedial measures. The first named appear to be of greatest promise and much research work is in progress to discover and to breed varieties of high quality which shall be strongly blight-resistant in root, in trunk, and in branch. It is along this line that eventual deliverance from blight will be found but some years must elapse before horticulture can reap the benefit of the work now in hand. In the meantime blight problems will continue to arise, and it is the purpose of this paper to particularly deal with our present knowledge of blight-resistant roots, since the elimination of blight in the underground parts of trees must ever remain the first—and most important—step toward pear-blight control.

Probably 80 per cent of all pear trees grown in the United States are either budded or grafted on seedlings of pyrus communis, the wild pear of Europe, commonly called by nurserymen the French pear. This is the ideal root for the nurseryman, since it has perfect affinity for all the commercial varieties, is satisfactory to "work," and if propagation is done by budding a high percentage of buds "take" if the work is properly done.

However, from the standpoint of the orchardist it has three serious faults—it root-suckers profusely from plow injuries, is subject to great injury from the root aphis, and is particularly susceptible to the bacteria of pear blight — more so, in fact, than any other root used in pear propagation.

The Dwarfing Roots.—It is known that the pear can be grown on seedlings of the hawthorn and the mountain ash, yet very few have been thus propagated and little is known of the behavior of such trees.

The pear may also be grown on apple roots. In such cases the root is somewhat blight-resistant but the tree is short-lived and apparently no advantage is to be found in this direction. No satisfactory pear orchards have been produced on the apple, although top-worked trees sometimes bear well for a few years. At Colfax, in this state, such a tree has borne extra fine fruit for the past five years and is still thrifty.

The affinity of some varieties of pears for the quince is well known, and orchards of the dwarf trees thus produced are of commercial importance in some parts of the country. In the production of such trees the pear is budded on rooted quince cuttings. This root is considerably more blight-resistant than the French pear, and is probably the best root to use in rich soil that is excessively moist. While dwarf pears are not in general favor in California, it is quite probable that under certain conditions they are much to be preferred to standard trees. Many varieties must be double-worked when grown on quince—thus increasing cost of trees—but the fact that dwarf pears bear young and yield heavily, with an improvement in quality and shape for certain varieties (together with a measurable degree of blight-resistance) entitles the quince root to more consideration than it has yet received in California.

Asiatic Pear Roots.—Rooted cuttings of the European-Asiatic hybrid pears, such as Kieffer, LeConte, Garber, and Smith, have been used to a limited extent but results have been generally negative. Kieffer is most promising of those named. LeConte cuttings were advocated several years since by a few California horticulturists. Personally I have little confidence in rooted cuttings of these hybrids, but think there is a most hopeful field for experiment in testing rooted cuttings of certain varieties of European blood that have shown practically complete immunity to blight.

The root that in the present state of our knowledge appears to present the greatest combination of advantages of any of the roots having blight-resistant qualities is the Japan pear, pyrus sinensis, the wild pear of Asia. Some nurserymen untruthfully refer to this root as "blight-proof"; it is not, but it is strongly blight-resistant. There is no blight-proof root thus far known to horticulture.

What is Known of the Japanese Root.—The use of this root extends over a relatively short period and it is a matter of regret that we have no authoritative literature bearing upon the subject in a broad way, and no knowledge of any scientific observations extending over a period sufficient to warrant our arriving at wholly definite conclusions. Because no such analytical study of the subject is available I have been compelled to weigh the opinions of numerous observers, both scientific and practical, and to interpret them in the light of my own personal experience, which in itself is too limited to allow me to reach positive convictions. On most points the views of the various scientific observers harmonize and the following seem to be generally accepted as facts:

1. The Japan seedling is of vigorous habit, frequently making more thrifty growth than the French.

2. Japan seedlings in the nursery are much less subject to fungus leaf-blight than French.

3. Japan roots have but little tendency to sucker. French roots sucker readily from plow injury, and blight-infection of such suckers speedily reaches the main roots of the tree.

4. The pear-root aphis—the most serious insect enemy of the tree when grown on French roots—does comparatively little injury to the Japan root.

5. While Japan seedlings vary in their resistance to blight, as do the French, and show different degrees of resistance in different parts of the country, their average resistance is much greater than any other root now in use. and is believed to afford relative immunity to root-blight in Pacific Coast orchards grown on Japan roots. Their blight-resistant quality is less pronounced in the New England states. Their behavior in the South, Southeast, and South west has been as satisfactory as on the Pacific Coast.

6. The Japan root will make vigorous growth with less soil moisture than the French. It is not only adapted to the drier soils, but is strongly resistant to their worst insect pest—the root louse—which in some localities is more to be feared than blight. This root is better adapted to dry, warm climates than the French, but its behavior in extremely severe northern climates is yet to be learned.

Japan roots do not dwarf the growth.

Affinity of Japan Root.—It is generally believed that the affinity between the Japan root and some of the European varieties is less pronounced than that of the French, and some nurserymen claim that not so high a percentage of buds will "take" on the Japan stock, thus making the tree more expensive to propagate. One Washington nurseryman discarded the root for this reason, having no other criticism. It will take several years of experimental work to conclusively determine these points. In our nursery at Grass Valley we have only worked Anjou, Bartlett, Comice and Forelle on Japan stocks, but our stand was satisfactory when the work was carefully done. In our work with the varieties mentioned it seems that Anjou has not "taken" quite as readily as the others, but that may be due to some other cause not determined. Where the bud "takes" at all we find the union to be perfect and in every sense satisfactory.

Oregon nurserymen use Japan roots very largely and this stock is also in favor in Washington. It has been used for 28 years by a nurseryman of Richmond, Virginia, and other prominent nurserymen have found the root satisfactory.

The Japan root probably has one serious disadvantage—under conditions of excessive soil saturation it may be injured by root rot. If pear orchards of blight-resistant roots are desired in such soils it may be best to grow dwarf pears on quince roots. If more complete acquaintance with the Japan root should prove that it has serious faults, the next step in the direction of blight-resistant roots will be the propagation of trees on rooted cuttings of certain varieties of pyrus communis blood that have shown wonderful immunity to blight. It will probably take ten years of experiment to bring about this substitution, but the orchardist of the present may feel positive assurance that the day of blight resistant roots is now at hand and may at least safeguard his orchard to this extent.

THE level of prices paid producers of the United States for the principal crops decreased about 4.6 per cent during August; in the last seven years the price level increased about 1.7 per cent during August. On September 1 the index figure of prices was about 6.2 per cent lower than a year ago, 2.8 per cent lower than two years ago, and 3.1 per cent lower than the average of the last seven years on September 1.

The prices of meat animals—hogs, cattle, sheep, and chickens—to producers of the United States decreased 1.4 per cent from July 15 to August 15. On August 15 the index figure of prices for these meat animals was about 11.7 per cent lower than a year ago, 6.5 per cent lower than two years ago, and 0.7 per cent lower than the average of the last five years on August 15.—Leon M. Estabrook, Chief of Bureau of Crop Statistics, U. S. Dept. of Agr.

ROOTS FOR ENGLISH WALNUTS.

To the Editor: Referring to your recent answer to a query about relative bearing of seedling and grafted walnuts, I would state that if you will visit the California Nursery Co. at Niles you will see growing both grafted and seedling walnut trees thirty years old. The grafted trees are on English or Persian root and also some trees on California black walnut root twenty years old. The only difference I ever noticed was that the nuts on the seedling trees would vary in size and crop from one year to another more than the grafted trees would. They have the Franquette, Mayette, Mayette Rouge and a large collection of other varieties.—J. P. Moniz, Edenvale.

[The statement is interesting, but the question was for an acreage of each kind.—Editors.]

Shot-Hole on Peach, Apricot and Almond.

A timely warning that shot-hole fungus which did more injury than usual in 1915 should be fought by early and continued spraying.

To the Editor: I have an almond rchard and it is infested with shot-ole fungus badly. Please give me est remedy for getting rid of it as has hurt the crop a good deal this ar. My neighbors say they will have spray as soon as the leaves drop do any good. Please advise me hat to do.—E. D. B., Chico.

Answered by Prof. R. E. Smith, University of California.]

The letter of your correspondent efers to a condition which is very ommon and of considerable impor-nce in the State just now.

Last spring we had a very unusual utbreak of shot-hole fungus upon lmost all of our various stone ruits on account of the favorable onditions for the fungus produced y late rains. As a consequence each, apricot, almond, and in some laces other stone fruit trees are ull of this fungus, and there is very reason to expect another abun-ant outbreak next year unless roper treatment is carried out to lean up the trees during the com-g winter.

First Spraying. — We recommend hat trees of the three kinds men-oned be thoroughly sprayed with inter strength lime sulphur solu-on during the period from Novem-er first to December fifteenth. his work should be done if possible fter most of the leaves have fallen nd after all pruning has been done, ut it should not for any reason be ut off after December fifteenth, for the spraying is done later than hat the chances are that very little ood will be accomplished. In doing his spraying the main object should to coat all the smaller branches d twigs very thoroughly rather han to simply paint the trunks and rge limbs with the solution. The hole tree should be sprayed, but is upon the smaller growth that he fungus winters over and com-ences its attack again next year, d so a special effort should be ade to spray all the twigs and all branches very thoroughly. In calities near the Coast where runes, plums and cherries were ore or less affected with shot-hole rouble during the past season, we ecommend the same treatment. In act, we believe that this spraying will be found profitable upon any nd all kinds of stone fruits every-where in the State.

Second Spraying.—Just as the uds commence to open next spring he trees should be given another praying, using at this time either he lime sulphur or Bordeaux mix-ure, of the strength of five pounds f quick lime, four pounds of blue-tone, to fifty gallons of water.

Third Spraying.—Experience last ear when shot-hole troubles were he worst that they have ever been n the State, showed that two good prayings according to the schedule bove given controlled these dis-ases with almost absolute success. here were many cases, however, where the work was not thoroughly arried out or where an unusual mount of rain fell after the second praying, when shot-hole fungus be-ame more or less abundant upon he foliage and even upon the fruit f peaches, almonds and apricots. With the apricot this occurred to some extent even where good spraying appeared to have been practiced, on account either of abnormal weather conditions or the occurrence of shot-hole caused by something different from the usual fungi. With the possibility of catching these unusual developments, we recommend to those who wish the best possible results a third spraying next spring just after the fruit is well set, using Bordeaux mixture composed of three pounds of quick lime, two pounds of blue-stone and fifty gallons of water. Especially if we have rain following the blossoming period, it is believed that such a spraying will do much good in limiting the amount of spotting and decay of apricots and the development of shot-hole on the fruit of peaches, which occurred so abundantly during the past season.

STARTING JUNIPERS AND ACACIAS.

An Italian propagator, I. Baldrati, at Eritrea, has obtained good results from the following methods devised by him:

Juniper Seeds. — The berries, gathered at a suitable stage of ripeness, are dried in the sun for about ten days; they are then placed in water for four or five days and occasionally stirred; a good fermentation is thus obtained; the fermenting mass is then well worked up until the seeds are freed and cleaned. They are then rinsed in water that has been warmed in the sun and immediately sown in beds. If the sowing is done at the beginning of the rainy season the seeds germinate uniformly within four to six weeks.

Acacia Seeds.—The seeds of all the best acacias germinate with difficulty and not uniformly; hence the importance of methods for facilitating the process and rendering it uniform.

With small parcels of seeds, the writer has obtained excellent results by steeping them for twelve hours in water, then enclosing them in moist woollen bags placed in glass-stoppered bottles exposed to the sun. In about ten days, 98 per cent of the seeds germinate; the seeds are taken out and sown as fast as the radicles appear.

When dealing with large quantities of seed, they are placed in vessels with boiling water and covered with sacks and kept in enclosed spaces so as to delay cooling. After two to four days they are sown in moist ground. It is necessary to sow at the time of the regular rains or to water copiously. With this method the writer has successfully sown: A. cyanophylla, A. pycnacantha, A. decurrens, A. farnesiana, A. longifolia, A. cultriformis, A. cyclops and others; with some other species, such as A abyssinica, this method gave negative results.

Bulbs and Lemons in Santa Cruz.

[Written for Pacific Rural Press.]

Bulb-growing in this county, while not at all new, has of late come into greater prominence and is destined to achieve notable proportions. On a small scale quite a number of persons have raised bulbs, in variety, for the market in past years, and this county has won the well-deserved reputation of being exceptionally adapted to bulb culture. If the writer is not mistaken, this locality may be the best for this purpose in the whole country and possibly we may share the world-wide reputation of Holland.

For several years, quite a trade in bulbs with the outside has been established in Santa Cruz city. But, in the past years, the business was conducted in hot houses or circumscribed grounds, which have given way to field culture, which now covers a large area and is annually increasing. A large trade in cut flowers was also built up, paper-white narcissus being, among the other flowers, sent far away in quantity. Today the business of general bulb culture is on a better footing than ever, and the outlook is that it is but in its infancy.

Under contract a large area is now devoted to raising bulbs of different varieties—Callas, white, yellow and black; fresias, in large numbers; gladiolus and others. Having tried this culture on a small scale, quite a number are enlarging their "plantations" and new recruits are, this year, taking courage from the success of their forerunners. Another season and there will be a great enlargement of the business, without the least doubt. Recently a number of persons engaged in the business, small growers and large, have effected an organization, co-operative in its nature.

Lemon Growing.—We are also at the beginning of another industry which will eventually enlarge, apparently, within a decade. From time to time, ever since the first settlers came to Santa Cruz, lemon trees, singly, were set out as ornaments in home gardens. Two years ago a surprising showing of the product of these trees was made at the Chamber of Commerce here. Finer lemons, both as regards appearance and quality would, with difficulty be found. Stimulated by the showing quite a large number of persons set out, in the aggregate, one or two thousand lemon trees, increased last spring by a larger number. One orchard has between two hundred and three hundred trees. The lemons grown here, near the coast, are of superior quality, developing a fine acid in goodly quantity. The finest limes the writer ever saw or tasted have grown within the limits of the city of Santa Cruz, and pomelos of attractive beauty and flavor are borne on trees in the Pajaro valley. It is doubtful if large orchards, compared with those in the southern part of the State will ever be set out, but the business of lemon production will evidently attain large proportions.

Santa Cruz. A. W. Robinson.

A recent commerce report states that the present crop of pears and apples in Amsterdam, Netherlands, are the largest in years.

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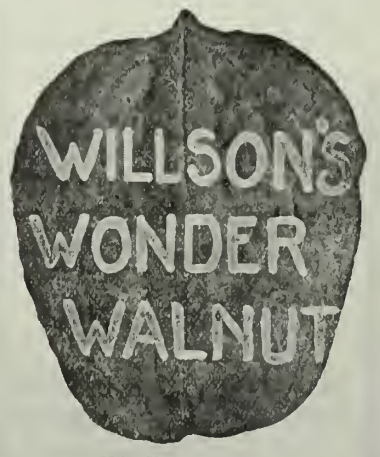
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Almonds in Northwestern Persia.

To the Editor: I have received a letter from Mr. Wm. B. Lake of Calneve, Cal., asking that I procure for you information about almond culture in Tabriz, Persla, which is considerably above sea level ln a mountain valley. My brother has accordingly prepared a statement on this subject. This brother ls at the present livlng in this place, being unable to return to Persla on account of the war between the Turks and the Russians.—Harry W. Wilson, Indiana, Pa.

Mr. Wilson's Statement.

I have lived in Tabriz, the capital of Azerbaijan, for about thirty years. I write simply from casual observation, not having made any special investigation.

The quantity of almonds raised in this region is large and is a considerable item in export trade, especially to Russia. They are also used freely by the people. The fuel for Tabriz, a city of 200,000 people, ls largely old almond and apricot trees. The orchards are very extensive all around the basis of Lake Urumia.

The region is mountainous. To the north is Mount Ararat, 17,000 feet high, to the east Savalan, 14,000 feet, and in the midst Sahend 12,000 feet. Lake Urumia, 125 miles long, lies in the centre. The plains and valleys surrounding lt are from 4200 to 5000 feet above sea level. The latitude is 37 to 39 degrees north.

Tabrlz, 4400 feet high, has a temperature running from 103 in summer to 15 below zero Fahr. in winter. A winter rarely passes without having some nights show 2, 5 and 10 below zero. Snow is frequent and in good quantity. Natural ice of requisite thickness is stored up for summer use. The trees suffer no harm from the freezing. Spring and autumn have rain in sufficient quantity. The summers are dry, with only an occasional shower. The days are hot and the nlghts cool, a strong wind blowing refreshingly almost every night.

The trees are raised from the seed: i. e., the nuts planted in rows in the garden, and set out when one, two or three years old. Some are grafted and some are not. Care is taken to plant in a sandy soil those started in a sandy soil, and similarly for a clayey soil. They thrlve in both kinds of soll. The trees blossom from the 20th of March till the 20th of April, depending on the season and slturation. The fruit ripens about the first week of September. The blossoms sometimes suffer from a frost or a great freeze, but most years there are good crops. I should say that the trees are exceedingly hardy and productive. I have never heard of any attention belng requlred on account of sexual quality. Crops of alfalfa and wheat are raised between the trees. I would say that the trees llve and bear till they are fifty years old at least, attaining a height of thirty feet and a girth measure of two and a half feet.

Cultivation consists in digging around the trunk in the spring, and pruning, generally in the spring. The trees are irrigated about once a month, from April to September, and it is thought best to glve the ground a thorough soaking in the latter part of winter. Three or four irrigations are enough to keep the trees alive and bearing.

The nuts are of different kinds, some hard shells, both blter and sweet; some soft shells, smaller in size. The quality seems good but I can make no comparison between them and the American almonds. They grow side by side in that climate with walnuts, pistachios, peaches, pears, grapes, mulberries, etc.

I am now in America. If special and technical information is desired, I recommend that the Department of State be requested to ask the Consul, Mr. Gordon Paddock of Tabriz, to make a report and to send seeds or young trees if possible. Once the department procured from Persia a quantity of the different varieties of the grape vlnes.—S. G. Wilson, Indiana, Pa.

[As our subscriber, Mr. Lake, llves in Lassen county, which consists largely of plains and valleys considerably above sea level, we presume he has thought of securing hardy almonds from an elevated reglon ln Persia, and the sketch whlch he has drawn out from Mr. Wilson ls lntersting. The varieties they grow may be harder than ours, but lt must be remembered that the common almond tree is perhaps as hardy as the peach against freezing which comes while the tree is dormant, but is rendered unprofitable by much lighter frosts which come after blooming. This is the reason why the tree fails to bear in Callfornia mountain valleys where late spring, and even summer frosts may be encountered.—Editors.]

IRRIGATION DISTRICT ORGANIZATION.

To the Editor: We are thinklng about organizing an irrigation district under California laws in one of the coast valleys of Central California. Will you name a few districts now in operation from which suggestions can be drawn, or glve other help toward details of organization?—Reader, San Francisco.

[Answered by Frank Adams, Irrigation Manager U. S. Dept. Agr., Berkeley.]

The principal irrigation districts now operating in this state, with their addresses, are as follows:

Oakdale Irrigation District, Oakdale.

South San Joaquln Irrigation Dlstrict, Manteca.

Modesto Irrigation Distrlct, Modesto.

Turlock Irrigatlon District, Turlock.

Alta Irrigation District, Dinuba.

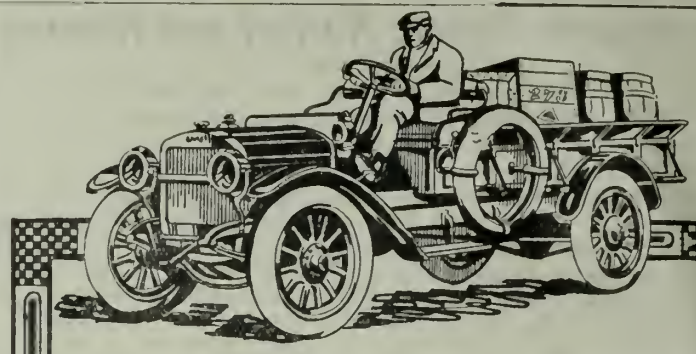
Tulare Irrigation District, Tulare.

San Ysidro Irrigation Distrlct, San Ysidro.

I might add that in none of these cases are conditions very simllar to those ln a coast valley, bnt I see no reason why the irrigatlon dlstrlct act of the State would not be entirely applicable to your conditions.

It is rather difficult to glve you any definite advice without first golng carefully over your proposed project, which is not possible for me to do at this time. However, lf you care to write me in about six weeks hence, I shall be glad either to come down myself or to arrange, if possible, for someone else to go over your project. I mlght say that it is expected that a rather full report on Callfornia irrigation dlstricts prepared in this office wlll soon be published by the State Department of Engineering at Sacramento.

Almond hulls fed exclusively was proven to be poor food for stock at the Unlversity Farm at Davls.



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TRAPPING SEED TICKS.

To the Editor: My chickens have those black chicken ticks that bury their heads into the flesh. Will you tell me a remedy?—R. T. M., Richgrove.

[Send to the Dept. of Agri., Washington, D. C., for Circular 170. The tick of which you speak is one of the most difficult pests to destroy, and will live through conditions that would be fatal to almost any other species of insect. Spraying the house both inside and outside is recommended, repeating six to ten times with an interval of three days between each spraying. The following sprays may be used: Whitewash containing carbolic acid; distillate mixed with carbolic acid or creosote; crude petroleum; boiling water; strong kerosene emulsion, etc. Before spraying the house, the fowls should be moved and placed in boxes or coops where the seed ticks can drop off as they become gorged, which occurs in about eight or ten days. Coops arranged with a wire net bottom through which the ticks can fall into a pan containing kerosese or strong spray material would trap most of them as they drop from the fowls. After two weeks in these temporary quarters, it is usually safe to return the fowls to their original quarters.—Editors.]

A HEARING ON RURAL CREDITS.

In Sacramento on September 29, farmers, fruit-growers, bankers and business men, testifying before the Rural Credits Commission at its opening session, favored some form of rural credits for the farmer, all alike agreeing that the present colonization schemes practiced in this State are not all that is desired.

L. M. Florin, a grape-grower of Florin, told of the failure of ranchers buying land on time and competing with the Japanese. George W. Peltier of the California National Bank thought that with the proper safeguarding of credits the banks can handle the rural credits necessary without any other machinery.

S. Glen Andrus of the Sacramento Chamber of Commerce declared that a marketing system is a primal need as all farm products are now in the hands of a food trust and $6,000,000,000 is lost annually in this country between the farm and the kitchen, to say nothing of the loss because of crops that cannot be marketed profitably.

PAPER FOR PEACH DRYING.

To the Editor: Last summer I ran across an article in your paper on paper for peach drying. I got up against it this season for trays and with the paper I succeeded in saving a ten-acre crop. I found out the heavy soft paper of a brown color was better to handle than the lighter grades. The sun did not affect the fiber in the heavy paper but almost scorched the lighter grades so that they easily broke to pieces. I. W. Cook.

Hemet.

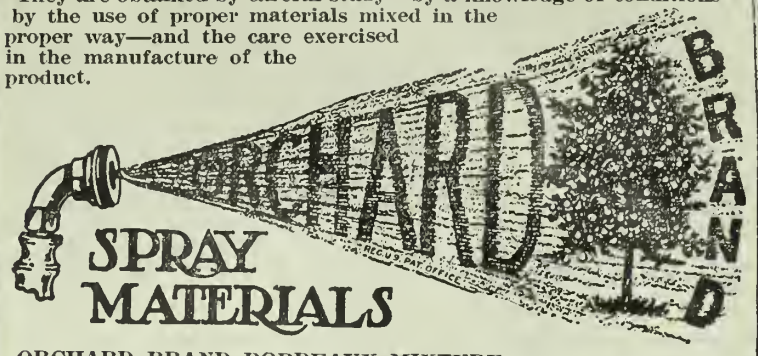
BLACK-EYE BEAN FIBER.

To the Editor: I have heard that the fibre of blackeye bean straw is used in making rope and twine, and that there is a demand for it, if baled for shipment.—H. R. R., West Butte.

[We do not know a thing about it. Can any one answer?]

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NEW WEIGHT OF LUG BOXES.

The introduction of regulations enforcing the net weight of lug boxes when they are in use delivering fruit and farm products from the orchards and fields to the canneries, has resulted in the saving of thousands of tons of fruit and farm products to the growers, according to a statement made by Charles G. Johnson, State superintendent of weights and measures.

The packing of Emperors has just started in the San Joaquin Valley. These grapes are the latest to be shipped from that section; about 500 to 600 cars are expected to be shipped, 50 per cent of which it is anticipated will be packed in sawdust.

THE amount of water power already developed in California is equivalent to 9,000,000 workers, or two workers for each inhabitant of the State.. The 120,000,000 of mechanical horse-power of the United States is equivalent to the work of 1,200,000,000 strong men. In other words, although we have only 100,000,000 actual population, we have the equivalent of twice the combined working population of China and India.

"The available arable lands in California have been estimated at 20,000,000 acres, fully half of which must be irrigated by water power. This will require only 1,000,000 horse-power additional development. The 300,000 average horse-power now being supplied in California is making a profit for the consumers of more than $50 per horse-power, or $15,000,000 a year. The cost of power to the consumers has been reduced in California to about one-half the cost twenty years ago. Further than this, the capital investment saved to the consumers through the economy of motors rather than engine plants has been placed at $30,000,000."—F. G. Baum, at the International Engineering Congress in San Francisco.

Mechanical Power on the Farm.

[Written for Pacific Rural Press.]

SIMPLE DEEP WELL PLUNGER PUMPS.

It costs $6.50 per acre per year to lift water 80 or 90 feet for irrigation of a 20-acre orange orchard near Lindsay, operated by F. Simpson. The 3 h.p. electric motor uses only 2.6 h.p. on the average to run the double belted 5-inch plunger pump which delivers about 10 miner's inches. By running a slow stream via concrete underground pipes into four furrows for each of 10 rows all at once, enough water soaks into the ground to maintain the "best young orchard in the country." It takes three weeks to irrigate this way, but the trees surely have responded, on an unfertilized soil grained for many years.

A 4 h.p. Witte gasoline engine is used on the home orchard belonging to Mr. Simpson. He has an unusual lever device for pumping with a 5-inch plunger pump to lift the water about 90 feet. He thinks a 1½ h.p. engine would lift about 8 miner's inches. A similar one put in for his brother nine years ago is still working. The lever is a 3x12, 20 feet long, the center of which is pivoted 9 feet above ground by a piece of gaspipe through a vertical 8x8 timber. On one end of the lever are several sacks of sand as a counter weight. From the other end hangs a 2½x3 plunger rod of wood down to tbe cylinder. Eighteen inches toward the center from this end, a 4x4 six feet long is hung by iron straps and a gaspipe. This is connected to the running gear.

In order to get extra power and slower motion, a belt runs from the small belt wheel of the engine to a big wheel in the running gear several feet away. The shaft of the latter wheel carries a small cog wheel which runs one large enough so one revolution of the latter raises and lowers the plunger once, connection with the 4x4 hanging from the 3x12 being made by a bolt through the rim of the large cog wheel.

Both the engine and the running gear are set on concrete bases to insure continuous alignment and to reduce vibration. The pivot post also is set in a concrete pedestal.

The brother's outfit is somewhat similar, but run by a 2 h.p. electric motor, less power being required on account of a double belt arrangement. The motor runs 1200 revolutions per minute. Its belt wheel, about 3½ inches in diameter, runs a belt 3½ inches wide 12 feet to a wheel about 3½ feet in diameter. The latter wbeel is on a shaft resting on a concrete base and carrying anotber wheel about 9 inches in diameter and 9 inches wide. From this, a 9 inch belt runs back beyond tbe motor to a big wbeel on a concrete pedestal. This wheel is of a size which reduces the speed from the motor's 1200 r.p.m. to about 15 r.p.m. Its shaft turns an iron eccentric arm 20 inches long, 2 inches thick, and tapered from four to six inches wide. The end of this contains the axle of a vertical arm whicb works the lever. This vertical arm has four holes near its lower end, about 4 inches center to center, which fit over the axle and may be changed to alter the length of the plunger stroke.

PUMP PERMITS FALL IRRIGATION.

Now that the rush work in fruit is over it is time to plan labor saving systems for next year. When a labor saving system also saves irrigation water that has to be pumped, it may soon repay wbatever large initial cost is necessary.

Two men irrigate a peach orchard sloping several feet in 10 rows using 750 gallons per minute for W. T. Dice of Fresno county. An 8 h.p. engine which Mr. Dice claims develops 12 h.p. runs a 5-inch centrifugal pump with a 6-inch suction and an 8-inch outlet. Since it is only 15 feet to water and the pump is five feet down, a big stream is thrown into the concrete standpipe nearby. Tbe water rises through a pipe within the large one and overflows to run through underground concrete pipes to tbe alfalfa one way and the vineyard the other.

When the orchard is to be irrigated, the engine is slowed down by use of a throttle placed in the carbureter tube by Mr. Dice. This reduces the force of water so that a cap can be screwed onto the inner pipe. Then the engine is opened up again and the water forced into a 12-foot standpipe whence it gravitates to the standpipe at the top of the hill 10 rows away. Half of the water is turned out of this upper standpipe to run the length of five acres each way. This water is watched especially by the men while the intermediate standpipes are opened to run water slowly into the other rows. Use of cement pipe requires that they be set in solid ground so they won't settle.

Since the well is only 37 feet deep, a great deal of sand is thrown



Extensive water development is now taking place throughout the West. Wise ranchers are giving the question of irrigation serious study, for they realize that Fall is really the ideal time to install their new pumping plant. Ranchers, irrigators and prospective water users will find that our new irrigation booklet No. 25 gives many valuable pointers. It also describes in detail the construction of the world-famous **Layne & Bowler Pump.** Write today for a copy.

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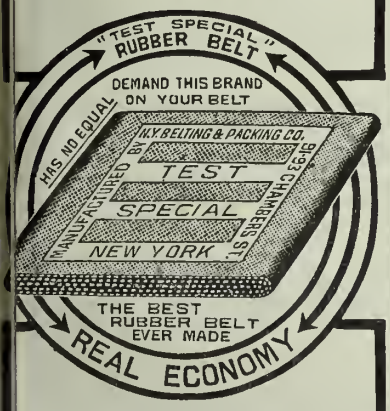
Stock Tanks & Silos. Lumber direct from the forest. A tank 4x3 ft., $6.50; 5x3 ft., $7.50; 6x3 ft., $9.00. 8x3 ft., $12.75. All other sizes in stock and equally cheap. I sell direct to the consumer Trays, Box Shook. You will save not less than 10 per cent by trading with me. Doors, Windows, Mouldings. 35 yrs. in this business

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up at the start. The engine is cooled with water from the pump, so the circulation includes a barrel in which the sand settles before running to the engine.

This pumping and irrigation system was unexpectedly valuable last fall when the trees along the road were suffering from considerable defoliation by red spider. As soon as the crop was dried early in September, Mr. Dice gave them a thorough irrigation to help strengthen the buds for next year.

PUMP DRAINAGE VIA DITCHES.

A lot of alfalfa was drowned out last winter in fields which might have been saved. The expense of drainage ditches or even tiling, with a pump to throw the water to the other side of a levee if necessary, would be a good investment if it saves the stand of alfalfa. The drainage ditches need cost but little if the irrigation ditches be deepened sufficiently, and perhaps shallow furrows plowed at intervals to direct the surface water into them. In most cases, the smallest kind of an engine and pump placed just above water-level in the drainage reservoir would be enough to force the water sufficiently high to get rid of it.

Where tiling are used in alfalfa, they are likely to clog with the roots, and in this case it has been found desirable to keep a space six or eight feet wide over each line of tile, clear of alfalfa, sowing shallow-rooted forage crops or root crops. Such strips take the place of open ditches, produce paying crops, and do not prevent free access of teams direct to any part of the field.

Combination irrigation-drainage ditches may be seen in many parts of California, and more are being installed where they may make the difference between a good crop and one not worth cutting.

NEEDS FEED GRINDER.

To the Editor: I am feeding soaked whole barley at present to my hogs. Rolling either wheat or barley costs $2.50 per ton besides a haul of two miles and back. What are the relative values of wheat at $1.50 and barley at $1.60 per hundred, and what is the best way to feed it?—R. E. S., Bishop.

[Neither is good feed alone, and neither is economical when fed whole. Many of them pass through undigested. When rolled, the nutriment is more available to the gastric juices, but many breeders prefer the grain ground. To avoid the long haul and the cost of grinding, you might set up a feed grinder such as was described in the issues of Aug. 28 and Sept. 25. Experiments at agricultural colleges seem to indicate that wheat and barley are of equal value for fattening if fed with something else for variety and bulk. As the ground barley gets more or less pasty when chewed, alfalfa meal, chopped alfalfa or other fine roughage would help, besides balancing the ration with its protein.—Editors.]

PORTABLE FEED GRINDER.

A little 4 h.p. Samson engine on runners is carried all about the Meadowbrook Stock Farm of Merced county, for various purposes. One of its uses is to grind barley with an International type B 6-inch feed grinder.

In order to keep the engine and grinder stiff, they are mounted on two runners of 4x6 timber 18 feet long. Five cross pieces of 4x6 feet long stiffen the runners and four 4x6s 14 feet long rest on top of this. The engine is bolted to two of the top timbers on one side of the big sled; the grinder is on a 2-inch platform directly over the other runner at the other end. The belt thus runs lengthwise of the center.

The engine is also used on a concrete mixer.

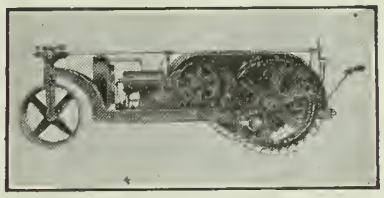


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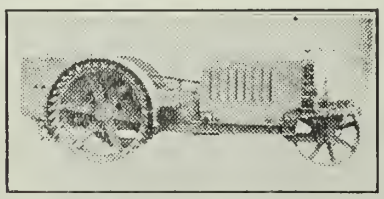


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General Agricultural Review.

CITRUS AND SEMI-TROPICAL.

A. W. Shamel of Exeter recently sold his 20-acre orange grove at that place to Mrs. Velma Harman.

Extensive additions will be made on the packing plant of the Mutual Orange Distributors at Porterville.

A large shipment of oranges was made last week from the Bates Orchard in Palermo to the Australian and New Zealand trade.

A movement has been started in Fresno to hold a Citrus Fair in place of the land show which has been formerly held there.

The Strathmore Citrus Association recently held its annual meeting and elected the following directors: A. W. Swain, J. P. Firth, Chas. Lighthall, H. F. Elliott, and P. Henry.

The Exchange Associations of Tulare county met on Oct. 9 and voted to continue the 8 to 1 maturity test, and also to enter the Tulare County Citrus Growers' Protective Association.

G. Harold Powell, manager of the California Fruit Growers' Exchange, is touring the East in an effort to have the federal ruling of eight to one for oranges repealed and a standard of seven to one substituted.

The Butte County Citrus Association, in preparation for the coming harvest of oranges, has set forth a set of rules governing the picking of the fruit, which require that the pickers wear gloves and handle the fruit carefully.

F. W. Mason of the Stewart Fruit Company at Oroville estimates this season's orange crop in that district at 75 per cent of last year's crop. The fruit is running to good sizes, and so far the number of split oranges is very light.

A recent commerce report states that a marked increase in the demand for Hawaiian-grown bananas along the Pacific Coast and as far east as Chicago has awakened a new industry in which the growers in the islands are reaping a substantial profit.

Congressman W. H. Kent is expected to be in Oroville shortly to confer with the Butte county orange growers in regard to the 8 to 1 orange test. He has advised the growers to send a grower thoroughly conversant with the facts to Washington to present their case, and this suggestion is meeting with approval.

DECIDUOUS FRUITS.

A fire completely destroyed the cannery belonging to the Chico Canners' Association at Chico on Oct. 3.

It is estimated that about $1,000,000 will be distributed amongst the prune growers in the Healdsburg district this year.

Out of the Chicago Park, Nevada county, section this year there were shipped 7,963 boxes of pears and 2,380 crates of plums.

A campaign against the red spider which threatens to destroy the Santa Clara Valley prune crop, is now being conducted under the personal supervision of H. H. Taylor, assistant professor of pomology of the University of California.

An effort is being made by the California Growers' Association, with headquarters at Tulare, to induce the Butte county growers to organize as a branch of their association and establish a cannery at Chico.

GRAPES AND SMALL FRUITS.

It is reported that $18 a ton is being paid for wine grapes at Napa.

Shipments of wine grapes in the Roseville district so far total 56 cars; growers estimate that the season's shipments will amount to about 200 cars.

Deliveries to the California Associated Raisin Company average a thousand tons of raisins a day at the present time; most of them are being shipped east.

A report states that Healdsburg wine grape growers are receiving $15 a ton for their grapes. In some instances the cost of hauling to the winery is also paid.

Collector of Internal Revenue J. J. Scott, after making investigations of conditions in the San Joaquin valley, reports that it is his belief that the wine industry of California is practically paralyzed.

The U. S. Dept. Agr. in its experimental vineyards throughout California is now testing over 1300 varieties of grapes; and of this number more than 500 varieties will have been exhibited at the Panama-Pacific Exposition.

Investigations on the part of the Department of Apriculture show that the United States imports annually from 40,000 to 50,000 million pounds of currants, almost entirely from Greece, which can be grown in the grape districts of California.

OLIVES AND NUTS.

Almond boosters of Esparto are furthering the plan of a State observance of "Almond Day."

John W. Konning of Durham realized $7000 from his 20-acre almond orchard of nine-year old trees this season.

The Porterville Cannery will put up another pack of ripe olives this year under their lahels—"Tulare County" and "Foothill."

The Hemet-San Jacinto Growers' Association is making arrangements to take care of a good share of the local olive crop this season.

A western Yolo county farmer estimates the Capay Valley almond crop this season at 625 tons, or a valuation of about $165,000.

It is stated that the olive pack put up by the Ehmann Olive Company of Butte county will be about the same size this year as last.

S. E. Herman of Sacramento recently purchased 20 acres south of Palermo from L. W. Pray; he plans to put the entire acreage in olives.

John Risse of Los Molinos has disposed of his 1915 almond crop on a basis of 14½ cents per pound for paper shells and 10 cents a pound for hard shells.

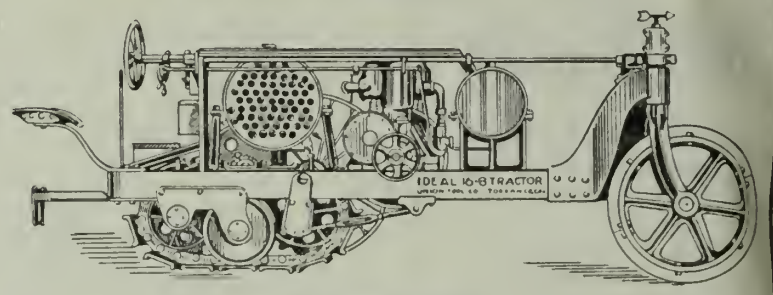
The Bangor section of Butte county holds the distinction of growing the first olives to ripen this season; they are on the Footmont Ranch belonging to E. K. Wood of San Francisco.

E. R. Lake, horticulture and nut expert of the U. S. Dept. of Agri., reports after an inspection of conditions there, that Sutter county can grow the pecan nut to good advantage. In 1913, 1,800,000 pounds of pecans were imported into this country, so there should be a good field for the product here.



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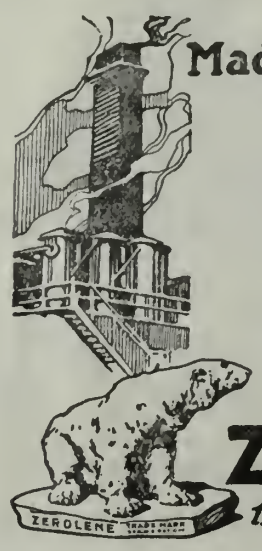
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GRAIN AND FIELD CROPS.

Gridley will hold a Rice Exposition from Oct. 26 to Oct. 31.

A. H. Abel of Arbuckle has just planted a 20-acre tract to 19,000 cactus plants.

Wheat will be the principal crop sown on 1100 acres of the Tapscott ranch near Corning.

L. D. Macey of Chico has just finished threshing 100 acres of broom corn on his ranch near Vina.

Lima bean growers of Goleta have perfected a selling agency to co-operatively market their 1915 crop.

California leads the States in cotton condition and in production per acre, according to the U. S. Dept. of Agri.

Alfalfa seed threshing is being done in the Poplar section of Tulare county; the crop is said to be a good one.

The corn crop in Potter Valley, Mendocino county, now being harvested, is reported to be above the average yield.

One hundred and fifty acres of the Phelan ranch near Chico will probably be planted to asparagus to be grown for the canneries.

Lester McGowan of Watsonville has been announced the winner of the potato-growing contest held by the Watsonville High School Agricultural Club.

E. L. Adams, director of the U. S. Experiment Station north of Biggs, has begun threshing a number of early varieties of rice which he has succeeded in propagating at the Station during recent years.

The Turlock Merchants' and Growers' Inc., having successfully handled the marketing of melons for the growers, are now preparing to enter into contracts for the marketing of Egyptian corn and beans.

The highest prices ever realized for California cantaloupes in September were obtained on the "Mission Bell" brand from Turlock on the New York market last week; $5.00 a crate was paid for standards.

The Bureau of Crop Estimates at Washington, D. C., makes the following estimates for the whole United States: all wheat, 1,002,029 bu; corn, 3,026,159 bu; oats, 1,517,478 bu; and barley, 236,682 bu.

W. W. Mackie of the University of California, in company with F. F. Lyons, Farm Adviser of San Joaquin county, recently visited the rice-growing sections of San Joaquin county, and reports that most of the tracts will give excellent results.

MISCELLANEOUS.

A fruit Fair is to be held at Paradise, Butte county, on Oct. 16.

The Annual Antelope Valley Fair opened on Oct. 8 at Lancaster, with good agricultural exhibits.

Marshall Diggs or Yuba county has sold 1481 acres in the Hallwood tract near Marysville to Judge Chas. Bryant of Indiana; and 1500 acres to another eastern capitalist.

The great flow of mud which enveloped the ranches in Hat Creek Valley has proven a benefit to the crops, according to reports based on the harvest that is just over.

The Valley Vista Farm of St. Helena is establishing a herd of Berkshires on their poultry ranch. New individual houses and pens have been built and several choice sows purchased.

At a recent meeting of the Executive Board of the Watsonville Apple Distributors, the idea of reorganization of the Pajaro Valley Orchardists' association was dismissed; and all efforts will be concentrated on the securing of a Farm Adviser for Santa Cruz county.

Prof. Gilbertson of the U. S. Dept. of Agri. in his recent visit to Humboldt county took up the matter of the appointment in Humboldt county of a trained woman to awaken interest in home economics, home decoration, sanitation, and other vital topics in the country districts. There are four women doing like work in the United States under government appointment.

UNIVERSITY JOTTINGS.

An olive paste has recently been invented at the University, made from olives too small or otherwise inappropriate for pickling. This new discovery will afford olive growers an opportunity to make a profit from a new by-product.

W. R. Ralston of Los Angeles, recent graduate of the College of Agriculture, has suggested a remedy for "bench root" in citrus nursery stock.

W. V. Cruess, assistant professor of zymology, has devised methods to producing clear and delicious jellies from oranges and lemons, thus developing a valuable citrus by-product.

H. S. Fawcett, associate professor of plant pathology at Riverside, has found on native willow trees cankers similar to those found on walnut trees. This has led to the conclusion that it is from the willow that this disease reaches the walnut groves.

Prof. J. Eliot Coit has found that the fat content of the avocado can be tested with a Babcock tester in the same manner as the dairyman tests his cows. Prof. Coit has proposed that an Avocado Tree Testing Association be formed.

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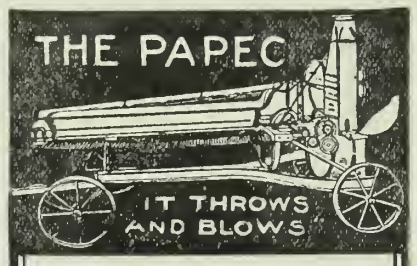


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ALFALFA will produce about three times as many feed units per acre as corn and several times more than the cereals or grasses. This statement seems extravagant for the reason that custom has established that food products be measured by the bushel or pound, and thus we are likely to value them in proportion to their bulk. This is very misleading. A feed is valuable only in proportion to the amount and kind of food ingredients there are in it. For practical purposes all food ingredients may be classified into ash, protein, and carbohydrate compounds, and food values should be measured by digestible ash, protein and carbohydrate units contained and their effect upon the animal system. Protein bodies in the feed are used in making blood and muscle, and thus are of value in building up large frames in young growing animals, while carbohydrate bodies furnish energy and produce fat.

To be more exact, when the number of feed units produced on one acre of corn, wheat, oats, or timothy meadow is compared with alfalfa, it is found that one acre of alfalfa, producing a hay yield of four tons, will bring to the farmer as much digestible carbohydrates as is present in 79.3 bushels of corn, 80 bushels of wheat, 180.7 bushels of oats, or 3.7 tons of timothy hay. In the production of digestible protein this acre of alfalfa will equal 4.8 acres of 40 bushel corn, 8 acres of 20 bushel wheat, 10 acres of 30 bushel oats, or 133 acres of timothy meadow producing one and one-quarter tons to the acre. A crop which will put into the farmer's hands so much fat and muscle forming material is worthy of efforts far more strenuous than are now being put forth to secure it.—University of Missouri, Extension Circular Co.

More and Better Hogs in California.

[Written for Pacific Rural Press.]

CARE OF PIGS AT FARROWING.

It is reported that 25 per cent of pigs that are born are lost by being stepped on, laid on, furnished insufficient milk, grown runty, etc. They are often laid on because sows are too fat and lazy to move when the little pigs squeal; because they crowd the pigs against the sides of the shed; because pigs get tangled in deep bedding; because the sows are excited, nervous, and eat the pigs, or step on them; because some pigs lack development on account of an unbalanced ration or constipation of the sow before farrowing; because some have long, sharp teeth when born, which irritate the sow so that she doesn't permit them to suck enough; the teat dries up and the pigs never do develop.

The novel idea of a farrowing crate helps Elmer Lamb, of Ceres, to save the pigs from nervous or lazy sows. It is built like a shipping crate about 2x5½ feet and three feet high with the back end movable and a cross piece on top so the sow cannot stand up and turn around. The open space at the sides above the floor is high enough so the pigs can get to her to suck, but will be pushed out of danger if the sow lies down against them.

The sows are accustomed to the crate by shutting them in an hour about a week before farrowing. Gradually the time in the crate is lengthened until they are left in all night. Mr. Lamb watches when the sow begins to make her bed and shuts her in the crate for farrowing.

He aims to be with all sows when farrowing; puts the pigs in a box; breaks off the sharp "wolf teeth." There should be as many teats as pigs, but the front ones are usually the best supplied with milk; any runts in the bunch are "found among the hind titters nine times out of ten." When the sow is through farrowing, he puts the best sow pigs on the front teats because there is better sale for sows. Each pig soon learns to use its own teat. For the first day or two, Mr. Lamb puts them on the right ones every three hours; gets up in the night to do it. After a day or two, he leaves them with the sow all the time if she is careful; otherwise, he takes them away except when they suck, until they are old enough to take care of themselves. After a few days if any are not doing well, he teaches them to drink cow's milk two or three times a day.

Unless the sharp teeth are broken off at the gums, usually with a pair of pinchers, S. F. Williams, of Chico, has observed that the teat dries up and the pig becomes runty. Pigs sometimes come with their tongues all chewed up. There is no hurry about putting the pigs to the sow for the first suckling.

Englefelt & Stewart of Orland say that they must be with the sows when farrowing because some do not break the skin they come in and die from inability to breathe. They wipe them clean and dry with cloths; clean out their mouths, and the handling helps them to get air.

First Care Most Important.—"The making of a pig is in the first three days of his life," says J. K. Fraser of Denair, who dries off every pig with a cloth as it is dropped and lays it in a warm box. He puts the pigs to their mothers every two hours for the first two or three days. One bunch which he fed for show pigs he taught to drink milk at two weeks old. He would catch them, stick their noses into the milk, they would lick their chops, and soon be drinking.

"That's how I gave this bunch a start."

E. C. Rand of Santa Rosa has seven cement-floored farrowing pens in one house and spends many nights with the sows at farrowing time, especially the young ones. He keeps a string of electric lights going so that if he should not be with them, the sows can see the pigs and are not so likely to lie on them in the dark.

Keeps Gentle Sows.—Henry Webb of Madera county uses lots of alfalfa hay for bedding, but says they don't get tangled up or laid on. This is probably because his sows are very gentle, which is one of the leading reasons why some sows raise a larger percentage than others. He says to be careful not to break the navel cord until the mouth is wiped out so the pig can get its wind. As long as they are fast by the cord, they can stay on the ground in the sheath a long time, but are likely to choke if the cord is broken before the sheath is.

California's Opportunity for Dairymen.

[Written for Pacific Rural Press.]

A DAIRYMAN WHO LEARNED TOO LATE.

Being hind-sighted instead of fore-sighted is characteristic of most men, and so it is with many dairymen at this time.

A story is told by a milk and butter distributor and manufacturer of the Bay District of a dairyman from whom he purchased whole milk a couple of years ago when milk for city trade was hard to secure.

One day a city inspector sampled some of the dairyman's milk and found it bad. Then he visited the dairy and found sanitary conditions very poor, so bad in fact that he recommended many improvements and then notified the city dealer that the milk from that dairy could not be sold unless improvements were made at once.

The dealer visited the dairyman and told him he must fix up or he couldn't buy his milk. "All right," replied the dairyman, "you don't have to take it. One of your competitors will."

The outcome of it was that a competitor did take it for a month, but he also was unable to handle it on account of its poor quality. Finally the dairyman began to sell butterfat to the creamery, but as he ran a large herd he found at the end of the first year that he had lost $1600 by a change from milk to butterfat.

Realizing at last his error he spent $2000 for a new milking barn and other improvements, having when completed a sanitary dairy in every respect.

He then visited the dealer who had previously handled his milk, told his story and asked for a renewal of business relations between the two. "But, my dear sir," replied the dealer, "you are too late. I have already contracted for my year's supply, and while I would like very much to handle your milk now, I am loaded to the guards for this year. If you will come around when this year's contracts are expiring I will be pleased to make a contract with you, for I am sure you must be producing a superior grade of milk."

Each dealer visited told him the same story: "he was too late"; and he is again selling butterfat this year at another $1600 loss, making in all a loss of $3200 and also having spent $2000 for equipment just as he was advised to do in the first place.

Before the above experience occurred milk was scarce and the dairymen could be independent. Now the tables have been turned and there is more milk available than can be consumed and the haphazard dairyman is forced to sell butterfat while the far-sighted dairyman with modern and sanitary equipment reaps the harvest.

"That," states the dealer, "is exactly the thing that will happen some of these days to the butterfat dairyman who persists in selling poor cream. As long as there was no surplus butter in the State every creameryman was forced by competition to take whatever was offered. But the time is nearly here when the creamery man will not be able to market his poor butter and when that happens the dairyman who is not fixed for superior quality cream will be hit and hit hard. It is a shame that we cannot make the dairyman understand that by a very small investment, very much smaller than the whole milk dairyman experienced, he is in a position to lock the stable before the horse is stolen. By cooling their cream, skimming it thicker and by more prompt delivery to the creamery the dairyman can save the industry from a financial loss which will be staggering in its extent."

Mesquite Beans for Stock Feeding.

[Written for Pacific Rural Press.]

To the Editor: We have in our valley a great amount of mesquite, and the ranchers have, for a long time, used the beans to fatten hogs. Some claim they make better pork than corn does. My cows also like them very much, and many of the Indians make meal from them for their own diet.

I would like to grind some up with milo maize or barley and would thank you very much if you would, through the columns of the Press, give me the nutritive value of mesquite beans, so I could proportionate them into a balanced ration for fattening hogs, and for cows in connection with alfalfa.—N. B. S., Thermal, Cal.

[Answered by Prof. F. W. Woll, University Farm, Davis, Calif.]

The Mesquite is a small shrub or tree, 20 to 40 ft. high, that grows commonly in the southwestern arid region of our country and also in South America. It belongs to the legume family. The pods make good feed for all kinds of farm animals and are also eaten by natives and travelers. They are considered equal to barley, by some authorities, for fattening horses, cattle, sheep and hogs, but this is probably giving them a too high value. According to Director Forbes of the Arizona Station, who made a special study of the products and uses of the Mesquite tree some 20 years ago, the entire beans (pods and seeds) are of slightly lower value than wheat bran and contain more protein but less fats and carbohydrates than shelled corn. The average analyses of pods and seeds given by him, in per cent of water-free substances, are shown below:

Composition of Mesquite Pods and Seeds.

	Pods	Seeds
Ash	5.3	3.5
Fiber	32.5	6.6
Protein	6.2	37.3
Ether Extract	1.5	6.1
Nitrogen-free Extract (starch, pectin, etc.)	54.5	46.5
	100.0	100.0

The seeds which make up toward per cent of the weight of the ans are high in protein and fat d low in fiber, like all leguminous eds; being very hard and rather all-sized they would pass through e animals largely undigested un- s previously ground, as the cor- pondent proposes to do. Since e mesquite beans must be classed with high-protein feeds like alfalfa, it is important to supplement them with feeds like barley, milo, dried beet pulp, etc., in feeding dairy cows, and with barley, milo or other cereal grains for fattening hogs, the beans making up not over one-half of the grain ration in either case when alfalfa hay is fed for roughage.

Mutton Sheep for Small Farms.

[Written for Pacific Rural Press.]

SHEEP HUSBANDRY ON ALFALFA.

Sheep are commanding an ever- ireasing amount of respect from e alfalfa grower, and it is well at they should, for few if any m animals require less care than eep when raised on well-fenced sture.

How far the alfalfa grower should with sheep is a point that only ore varied experience can decide, t certain it is, from the experi- ce of C. E. Schmeiser of Solano unty, that an acre of alfalfa will rnish excellent feed for a large mber of sheep most of the year. Mr. Schmeiser has two small flocks sheep, one of 180 head which l be used for breeding purposes, l another of 175 head, which he rchased last spring when thin to b fattened on a part of his alfalfa rch.

A field of 15 acres of irrigated alfa was set aside for the market k and since that time the 175 d have been kept there continu- ly. A division fence was put up, iding the field into two seven and half-acre plots. This allows the igation of one field while the ep are in the other one. As soon a good growth is secured after igation, the flock is transferred o the new growth and in this y is provided with a continual ply of excellent pasture.

No Bloating.—The most common ection to this method of grazing been the loss by bloat. On this re, Mr. Schmeiser has very de- ed views, and his experience is st encouraging.

Before turning his flocks from bble or other grazing land onto alfalfa pasture, Mr. Schmeiser keps them in a corral over night a part of the next day, where y are fed all of the hay they will e. By afternoon, they are well fed and then they are turned into e alfalfa pasture. It is the prac- e to keep them there continually, ing at ease; and in this way not erloading themselves with the en feed at any one time. In ing for the flock this year, not e was lost by bloat, and it is at- uted entirely to the above rea- s.

This experience shows that during growing season an acre of al- falfa will furnish fed for nearly 12 head of mature sheep, and from the condition of the sheep in September, it appears that even cross-bred animals can be profitably fattened, for while this flock was very thin when put on the alfalfa, it looked to be in fine condition at the time of our visit.

The success of this year's feeding has decided Mr. Schmeiser to raise sheep instead of hogs, crossing Shropshire bucks on the cross-bred ewes, and breeding for October lambing. This will allow him to reach the winter lamb market without encountering wet weather for lambing.

PUREBREDS SELL HIGH AT SACRAMENTO.

[Written for Pacific Rural Press.]

That California has a place as a breeding State was conclusively shown at Sacramento last week. The Morris and McAlister Sale held at the Fair Grounds on Wednesday and Thursday was one of the three largest ever held in America and by far the largest ever on this Coast. On Thursday, the last day of the sale, over 100 head passed under the auctioneer's hammer at an average price of over $500. The total receipts of the sale were in the neighborhood of $80,000, of which about $48,000 went to A. W. Morris & Sons of Woodland and the balance to J. W. McAlister & Sons of Chino.

The sale was a success in other ways than putting goodly sums of money in the pockets of the consignors. It established good prices for Holsteins and it placed good stock in good hands for the good of the dairying and breeding industry.

Some time ago our Editor scolded our millionaire land barons for not making better use of their land and advised them to buy high-priced bulls to make their land more valuable. His advice seems to have been well taken, as millionaires, bankers, and big land owners bid in a good percentage of the stock sold. This means that there are being built up a number of herds that will eventually rival the famous herds of the two consignors.

However, not all was sold to bankers and millionaires. Many fine animals went individually at good prices to dairymen and small breeders scattered all over the State, indicating that the dairymen are determined to build up their herds by the use of good sires or that they intend gradually to go into the purebred game.

The reputation of the consignors and systematic and extensive advertising of the sale brought buyers from a wide area; from Arizona to Washington and even as far away as the Hawaiian Islands. There was absolutely no evidence of financial

(Continued on page 383.)

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Shropshires sired by rams imported by me from England in 1911.

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DAIRYING.

The State Hospital at Napa is filling for the first time their new concrete silos. In one they have just put corn; in the other, alfalfa.

Oct. 21 and 22 will be Guernsey Days at the Panama-Pacific Exposition, with a meeting of Guernsey breeders to be held the evening of Oct. 22.

According to a consular report, the dairy industry in New Zealand has become an important factor in the prosperity of that country; and the future seems bright.

The report of the Gridley Cow Testing Association for the month ending Sept. 30 shows that five cows produced better than 50 pounds butterfat in thirty days.

B. D. Mason of Willits considers that clover grown in Mendocino county is a better dairy feed than alfalfa. His clover produced about one-third more hay per acre than the alfalfa.

Walter H. Dupee of the Edgemoor Farm, Santee, San Diego county, has a view herd at the Panama-Pacific Exposition of 22 head of Guernseys, headed by Imp. Itchen May King 25174.

The two 50-ton Tulsa silos erected on the Red Bud Ranch near Cloverdale have proved very satisfactory. The silage is now being fed and only a very small amount of the outer edge was moldy.

A Pacific Rural Press representative visited Sunnybrook Ranch of Willits a few days ago and found the proprietor preparing to whitewash the inside of his cow barn. Nothing is too good for his registered Holsteins.

A complete new set of dairy buildings is being erected by Dr. Wallace of Eureka on his ranch one mile west of Ukiah. The plans are to keep 40 milk cows. Sanitary milk will be produced for delivery in Ukiah.

Twenty-four cubes of butter were entered in the September Educational Butter Scoring Contest of the University of California, held Sept. 27 at San Francisco. The average score was 91.27. The fifth entry will be scored in connection with the California Creamery Operator's Association Convention, at San Francisco, Oct. 28, 29, and 30.

Three grade Jersey cows, owned by A. J. and Nellie A. Morey of Orland, produced as follows during September: Gertrude, four years old, produced 51.56 pounds fat; Fern Lassey, three years old, 42.56 pounds fat; Little Browney, three years old, 41.13 pounds fat. This is profitable dairying, based on knowing what each cow is doing. It pays with grades.

D. S. Shattuck, foreman on the Revada Ranch north of Napa, states that the reinforced concrete silo (size, 25X60) built two years ago was filled with corn ensilage this year, and that the action of the acid on the concrete, which softened it, together with the tremendous pressure, caused the walls to crack. This allowed the juice, which is one of the best parts of the silage, to escape by the hundreds of gallons.

The Holstein-Friesian Association's prize list for the whole United States shows that A. W. Morris & Sons of Woodland had in the aged class 17 cows out of the 62 highest; in the senior four-year class, three out of the 25 highest. In this class DeKol Valley Mead 2nd headed the list with 809.37 pounds of fat from 20,326.4 pounds milk. In the three-year class, seven cows among the 34 highest. In the two-year class, eight out of the 26 highest were from the Morris herd.

CATTLE AND SHEEP.

Edson & Foulke, of Gazelle, recently drove 1045 head of cattle from Oregon to fatten for market.

Gorham King, of Red Bluff, purchased 1700 ewes from Anton Nunes, of Jelleys, to place on one of his ranches.

G. W. Haigh of Sonoma recently sold 25 head of beef steers to the California Market of San Francisco, at $80 a head.

Mrs. M. F. Martin, of Little Shasta Valley, recently shipped 2000 head of lambs to a San Francisco meat company.

J. E. Mitchell, of Williams, recently received a shipment of 1000 head of cattle from Siskiyou county to pasture on land he has leased.

Coyotes are getting so thick in Mendocino Co. that a great many of the sheep men are selling their flocks and replacing them with cattle.

Cattle losses are reported to be heavy in the Siskiyou Mountains, and a government or State expert will be asked to investigate the cause.

O. T. McKendree, a sheep man of Klamath Falls, Ore., has contracted for feeding 8000 head of lambs in the Klamath basin during the winter.

A. J. Henry, of Tehama county, recently purchased 400 head of cattle from Harry Andrews of that county, to stock his 1100-acre ranch.

Miller & Lux have purchased between 5,000 and 6,000 head of cattle this year in the Klamath Falls section of Oregon, valued at approximately $200,000.

According to E. D. Applegate, one of the large sheep owners of Klamath county, Ore., the present year has been the best for the sheep man in the history of that section.

A recent commerce report shows that of the live cattle exported from Canada during the year ending March 31, 1915, 183,652 head went to the United States and 2,251 to other countries.

Dogs are reported to be playing havoc with the sheep in Yolo county. Kaupke Bros. of Woodland, have twice had dogs visit their purebred Hampshire flock, and over $1000 worth of sheep were killed.

The Spreckels Sugar Co., of Spreckels, recently received a second trainload of 18 cars of cattle from Chico to fatten on beet tops and pulp, with the intention of reshipping them to market in six or seven months.

Keeping small bands of sheep as a side line is proving quite popular among the ranchers of Napa county. They find that they save lots of labor in keeping the foul weeds in check, besides proving a profitable addition to the finances of the ranch.

The quarantine on sheep scabies in California was lifted on Oct. 15. The following counties are still un-

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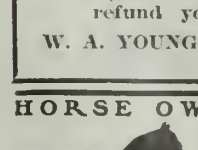
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They are of FINANCIAL KING, GOLDEN LAD, GOLDEN FERN'S LAD, MARIGOLD and ST. LAMBERT blood, the kind that improve type, cream production and persistency. One cow gave 49.5 lbs. fat in 11th month; her daughter gave average test of 8.38%; another gave 79.9 lbs. fat in one month, 238.9 lbs. fat in 134 days. A 2-year old gave 50.6 lbs. fat in one month—all under dairy conditions.

We have bulls from such cows, with correct type.

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HORSES AND SWINE.

A representative of France recently purchased 400 horses from W. W. Brown, of Fife, Ore., for approximately $24,000.

The Dunham-McLaughlin Co., of Oakland, reports the sale of the three-year old stallion Monsieur to the D. McGrath Estate, Oxnard; the price stated was $3300.

At the request of the Colusa County Swine Breeders' Association, the supervisors passed an ordinance establishing a quarantine against the spread of hog cholera.

N. Reynolds, of Geyserville, states that when he feeds a hog he likes to see it grow. For that reason he is raising purebred O. I. C. hogs. His original stock came from Albany, Oregon.

Frank Nissen, of Esparto, is winner of the hog contest of the Esparto Agricultural Club Contest; his pig weighed 40 pounds when he purchased it, and 450 pounds at the end of the contest.

Duroc-Jersey swine seem to be taking the lead in Napa Valley. W. W. Everett of St. Helena has lately gone into the breeding business. For his herd sire he has secured of W. N. Shanks, the well-known Duroc breeder of Worthington, Minn., Riverbend High Model, son of High Model, blue ribbon winner at several of the largest eastern state fairs, and Lady Top Notcher 6th, Shank's $1000 sow. The sum of $3200 was refused for High Model.

A new, modern, round hog house, containing compartments for 17 hogs, has lately been completed on the Jack London ranch near Glen Ellen. Each compartment has a feed runway built of concrete on the inside of the circle and an exercise yard on the outside. A round granary and feed mixing room is located on the hub. The entire structure is made of concrete and rock, thus making the building perfectly sanitary. A very choice lot of Durocs and Chester Whites are being bred.

MISCELLANEOUS.

The Romer Vista Ranch south of Ukiah is using registered Angora goats to clean their land of brush and are doing a good job.

Dr. Stetson, president of the Farm Bureau of Napa county, reports that plans are being made to hold a livestock and agricultural fair at Napa next year.

A test made on the University Farm at Davis with 3 Toggenburg goats and five dairy cows, shows that the goat eats only 90 per cent as much to produce a pound of milk as does the cow.

The Standard Stock Farm, formerly of Ukiah, has leased for a period of five years the dairy department to John Hemmings, who has 25 years' experience in that line of business. There are 100 cows and 3500 hens on the ranch.

Governor Capper of Kansas has protested against Governor Johnson's action in quarantining Kansas livestock, thus excluding their exhibits at the Exposition. The protest states that there is no foot and mouth disease in Kansas, and requests that a veterinarian be sent from here to prove the fact.

COLT LAME; ANKLES SWOLLEN.

To the Editor: My three-year colt just broken to drive to a cart rests on one foot, then the other, and the ankles are slightly swollen. Had him shod lately. Rests during school hours. Eats well, is quiet, but a good trotter. Neighbors say he is "calking."—E. A. D., Turlock.

[This horse is green yet and has not learned to carry his feet properly, with the result that he is interfering. A good blacksmith should be able to remedy the trouble by proper shoeing, though it may take several shoeings to break him of the trouble.]

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

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INCREASE QUANTITY AND IMPROVE QUALITY of your milk by using a Guernsey Sire. We can furnish choice imported or home-bred bulls from big record cows at attractive prices. **Imp. Itchen May King 25174,** the best living May Rose bull, heads the herd. See him and his calves at San Francisco Exposition. Come and see our Guernseys, or send for price list. **Edgemoor Farm,** Santee, California. Walter H. Dupee, Proprietor.

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FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

SUNNYBROOK RANCH, Willits, Cal.—Breeders Registered Holstein stock. Young bulls for sale sired by Ruby Gem Cavary Lad. Prices reasonable.

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CREAM CUP HERD—Registered Holsteins Pontiac bull calves. M. Holdridge, Modesto, Cal.

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REGISTERED JERSEY CATTLE—Young stock for sale. W. J. Hackett, Breeder, Ceres, Cal.

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SUNNYSIDE HERD—Registered Holstein cattle. R. F. Guerin, R. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

REGISTERED JERSEYS—Young bulls and bull calves. T. B. Purvine, Petaluma.

A. R. O. REGISTERED HOLSTEIN BULLS for sale. Millbrae Dairy, Millbrae, Cal.

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BREEDERS OF HOLSTEIN-FRIESIAN cattle. Dirk Dairy Farm, Lemoore, Cal.

REGISTERED HOLSTEIN BULLS for sale. Write Dr. Stetson, Napa, Cal.

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BIG TYPE POLAND CHINAS—I have an extra good lot of strictly high-class young boars from three months to one year old that are fit to head any herd anywhere. Visitors say they are the best they ever saw. They have the large size, the good hams and shoulders, the strong, wide, arched backs, great length and depth of body, plenty of smoothness, mellowness and quality—in fact, they have two good ends and a good middle; are good lookers and money-makers. Their dams are either from Illinois, Iowa, or Missouri, or are from dams whose sire or dam are from these States. These boars are sired by **Iowa Wonder,** who will weigh over 1000 pounds in show condition. He is a son of **A WONDER,** the greatest Poland China boar living or dead. These young boars carry the stamp of their sire and will sire pigs that will please you. Satisfaction guaranteed in every particular. I am overstocked. I have boars galore. Will sell them at extremely low bargain prices. No females for sale at present. The book on THE HOG SUPREME—THE POLAND CHINA will be sent to you free for the asking. Yours for the BIG TYPE—the kind that grow faster and larger and have more and better pigs. GEO. A. SMITH, CORCORAN, CAL.

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ROSE CREST BERKSHIRES of Masterpiece and Rival's Champion Best breeding. A choice lot of Fall and Spring boars; also a few sows and gilts. F. L. Hall, Perris, Cal.

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PLAINFIELD STOCK FARM—Registered Berkshires and Durocs. Young stock for sale, both sexes. H. M. Bullard, Woodland, Cal.

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LINDEN STOCK FARM—Registered Berkshires, both sexes, all ages, best of breeding. Write for prices, Linden, Cal.

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DUROC-JERSEYS—Registered boars and gilts. John Decker & Sons, Turlock.

REGISTERED POLAND-CHINA HOGS—J. W. Wakefield, Acampo.

REGISTERED DUROC-JERSEY SWINE—Las Pederas Ranch, El Cajon, Cal. M. S. Allen, Manager.

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MISCELLANEOUS.

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Veterinary Queries and Replies.

[Answered by Dr. H. B. Wintringham, Petaluma, Cal.]

PAIN AND FREQUENT URINATION.

To the Editor: A very fine work horse seems to have a great deal of kidney trouble. If he is put on any kind of heavy work or has the least change in food he seems to have colic spells. Also while working he will urinate 10 to 12 times, a small amount at a time, during a day. Then he will spread his hind quarters and stand that way for some time. He is kept in corral with other stock with very best first cutting alfalfa hay to eat. Last week he almost died, apaprently with colic. He was up and down and groaning with pain. We gave him Watkins' Colic Remedy at the time. When he had this last bad spell we had given the stock one feed of barley hay.—J. G. O., Mocalno.

[This is a case of too much alfalfa. Some horses cannot stand it. It will take him some time to get over the trouble. Give him one quart of raw linseed oil and follow with one ounce of saltpeter daily for one week. Change his feed and do not feed alfalfa hay again except in very small quantities.

GILT DOESN'T BREED.

To the Editor: Kindly tell me if there is any way of having a sow come in heat. Have one nearly a year old and as yet has not come in heat.—F. M. B., Hanford.

[Cut down the ration to reduce this sow in flesh. If she does not come in after a month give her 1-12 grain Yohimbin three times a day for one week.]

COW SCOURS, AND OTHERS COUGH.

To the Editor: Will you kindly send me a recipe for the cure of scours in a five-year-old cow? She had been on green alfalfa before we got her, and we have been feeding her alfalfa hay. About ten days ago we drenched her with ½ lb. of Epsom salts and followed it with a pint of linseed oil about 12 hours later. We have also been feeding her about 2 quarts of rolled barley twice a day, but nothing stops the scours. We cannot get any grain hay in this neighborhood. She is giving two to three gallons milk a day. We have three other cows, all Holstein, that we brought from Los Angeles. Shortly after arrival they began to cough in a shrill, wheezy tone, and have been doing it for several weeks. They all seem to be in good health otherwise. Can the trouble be bronchitis, caused by dry climate, or alkali dust in the air?—S. I. M., Rio Bravo.

[Get some 30-grain Sulpho-Carbolate tablets and give six three times day, gradually reducing this amount as the condition improves. Have the other cows tested for tuberculosis before trying to treat for cough.]

SHEEP LEGS STIFF.

To the Editor: We have about 300 head of sheep here running on alfalfa. Had them here about six months, and every once in a while one of them seems to get poisoned. They don't die, but when they get down are unable to get up; all four legs are just as stiff as can be; but if we stand them up and hold them for a while they are able to walk, but stiff legged. We had a lamb that was that way for two months, then got all right. Some of the others got over it quicker. We now have a two-year-old ewe pretty bad. How does "Deadly Night Shade" affect them? Will Johnson Grass hurt them? Or do you know of any other weed or grass that will get them in that state?—Subscriber, Los Banos.

[Sheep are not susceptible to poisoning by eating deadly night shade. Johnson Grass has no poisonous effect. The trouble is no doubt due to poisoning by some plant and would suggest that you kill the next case you have and send the stomach and contents to the University for identification of the plant causing the trouble. A remedy for poisoning of this kind is 10 grains each of potassium permanganate and aluminum sulphate in solution given just as soon after the symptoms show as possible.

BOAR LOAFS ON THE JOB.

To the Editor: We have just purchased on 18-month-old boar, weighing about 250 pounds. It has every appearance of being in a good healthy condition and has an appetite that would answer for two; but when he should get right down to the main object of boardom life, he is not there. The larger sows when in heat chase him around the pen. We have tried him on the stubble and pasture, also in the pen on a ration of crushed barley and cured alfalfa. Sometimes he will go after a very small sow when it is in heat. What is best to do with such a loafer?—H. B., Santa Ynez.

[Get a tube of 20 1-12 grain tablets of Yohimbin. Give one of these three times a day until gone. Then start him off with a gentle sow of his own size. Keep him by himself while feeding the medicine. If Yohimbin does not bring him to time, nothing will, as its results are very positive.]

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View Herd of GUERNSEYS

Now on exhibition at the Panama Exposition. Ask the Club representative for information regarding the breed.

See the grand showing of GUERNSEYS to be judged on October 21st and 22nd.

American Guernsey Club
PETERBORO, N. H.

Oak Grove BERKSHIRES
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Our herd is Cholera Immune, the only Immune Berkshire herd in the State.

Five herd boars in use and they are second to none on the coat. Our sows are of equal merit.

We have at present some 300 Berkshire and we know that we can supply what you want.

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Hopland Shorthorns
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All stock registered. Bulls of highest quality. Young Sows and Boars of finest breeding and type. Prices on application.

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See us at our Exhibit, Block 1, Agricultural Palace, P. P. I. E.
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Reserve Grand Champion Percheron Stallion, Panama-Pacific Exposition. Foaled 1913. Sire was champion of France.

We had more PRIZE WINNERS among

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World's Fair
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than any other exhibitor.

These winners include the
JUNIOR CHAMPION,
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RESERVE GRAND CHAMPION OVER ALL AGES.
When you want the
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Prize Winners
FINEST STOCK IN THE STATE
$30 AND UP

My herd has been a consistent prize winner for many years at the best shows in California. Most of my winning hogs have been of my own breeding.

My Herd of Splendidly Bred Brood Sows is Headed by
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First prize under 6 months boar at the Chicago International,
Assisted by
PERFECT HUSTLER 238209

Both of these grand boars are siring the kind of pigs that grow into money quickly, and that produce their kind.

I breed the kind that have a high degree of quality, all the size that is necessary, and mature quickly and economically into the most desirable market hogs.

I shall exhibit at the Panama-Pacific Exposition, and cordially invite inspection of my exhibits.

M. BASSETT, HANFORD, CAL.



Frank Rutherford, Supt.
Ted Hallard, Shepherd.

San Ramon Shropshires
OUR FLOCK HEADERS ARE:
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Cavendish 272
Cavendish 246
OUR 1914 WINNINGS:
All Firsts and Championships at Sacramento State Fair, Fresno Fair, Hanford Fair, and Pleasanton Fair.
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Contra Costa Co., California.

Sorghum and Beans: Feeding for Milk.

To the Editor: Can you tell me what relative value as a food for growing pigs and chickens has Kafir and Egyptian corn as compared with barley and Indian corn? Also the analysis of black-eyed beans? What kind of a food would they be for pigs and chickens? Would a cow's milk which tested 6 per cent butterfat also carry a corresponding increase of the other milk constituents over a cow's milk testing 4 per cent butterfat? Or in other words, will the other solids which milk contains increase in a similar ratio with that of fat as a herd is improved in the quality of their milk? Is the skim-milk from a herd of Jersey cows whose milk tests 6 per cent butterfat worth any more for feeding purposes than the skim milk from a herd of Holsteins whose test is 4 per cent? There is much difference of opinion among dairymen on this question.—W. H. F., Porterville, Cal.

[Answered by Prof. F. W. Woll, University Farm, Davis, Cal.]

There is no marked difference in the chemical composition, digestibility or the feeding value of Indian corn and the grain sorghums, but the latter are, in general, not quite so palatable to farm animals as Indian corn, very likely because of the higher oil content of the corn. Comparative feeding experiments with swine and other farm animals have shown that somewhat better results may be obtained from rations composed largely of Indian corn than from Kafir, milo and other varieties of the grain sorghums.

The following table shows the average composition of Kafir corn, Egyptian corn and cowpeas. I am unable to give the chemical composition of black-eyed beans, but it would not be likely to vary much from that of cowpeas in general.

	Moisture	Protein	Digestible Carbohydrates	Fat
Kaffir Corn	9.3	7.5	70.5	2.6
Egyptian Corn	12.6	8.0	64.3	3.0
Cow Peas	14.6	16.8	54.9	1.1

Beans and peas have a high nutritive value and are well adapted for feeding both pigs and chickens. They should, however, be mixed with other grain feeds, as they are very rich in protein and, therefore, call for supplementary starchy feeds, like cereal grains, Kafir, milo, etc., or mill feeds, to furnish the right balance between the two classes of feed components. Leguminous seeds are also undesirable as sole grain feeds because they produce pork and meat lacking in flavor.

Milk testing 6 per cent of fat will contain about 10 per cent solids not fat, while 4 per cent milk contains about 9 per cent solids. The solids not fat, therefore, increase with the percentage of fat, but not in the same ration as the fat. It is not feasible to improve the quality of the milk from a herd as much as 2 per cent, however, unless cows giving milk of a lower fat content are largely replaced by either Jerseys or Guernseys. By using a herd bull whose maternal ancestors produced milk containing a high per cent of fat for their breed, the average quality of the milk from the herd may be gradually improved, but this method takes considerable time and the change wrought will not be apt to exceed a couple of tenths of one per cent. Any improvement in the fat content secured will, however, be accompanied by an increase in the non-fatty solids as well.

The last question should be answered in the affirmative.

PUREBREDS SELL HIGH AT SACRAMENTO.

(Continued from page 379.)

stringency. The buyers were eager and the bidding was often so brisk that the auctioneers had difficulty to determine which of several simultaneous bids was entitled to recognition.

The sale was exceptionally well conducted. The large pavilion especially fitted up for the sale and donated by the State Agricultural Society provided comfortable quarters. Colonel Ben Rhoades was in good voice and trim, and he was ably assisted in the ring by T. E. Getzelman, a well-known breeder of Hamshire, Illinois.

The largest number of animals sold to one firm was 20, mostly young cows and heifers, to Rancho Santa Anita.

The J. W. Gibson Co. of Williams bought a baker's dozen, including two of the highest-priced cows sold, paying $1500 for one and $1150 for the other.

J. M. Henderson Jr., Fred W. Kiesel, and James McGilivray of Sacramento were among the largest buyers. All are building up pure-bred herds in Sacramento county.

Wm. Bishop of Chimacum, Washington, bought three fine heifers and a young bull to add to his show herd at the Exposition this year.

Among those buying high-priced bulls were: McCloud River Lumber Co., Stanford Ranch, I. G. Zumwalt, R. F. Mitchell, H. E. Cornwall, Alex Whaley, T. J. Gilkerson, and S. R. Renaud, of Phoenix, Ariz.

J. D. French, representing the Kamehameha School at Honolulu, attended the sale and bid in several cows.

R. F. Fisher of Humboldt county, a Holstein booster in a Jersey country, bought a half dozen or more fine animals to improve his herd.

The Bridgeford Co. took advantage of the sale to add to their pure-bred herd at Knightson.

Heath Bros. of Pleasanton bought 8 head; J. H. Harlan and Dr. C. M. Faris of Yolo county were both buyers at the sale.

Helm Land and Cattle Co., who are building up a Holstein herd in Fresno county, bid in a number of good animals.



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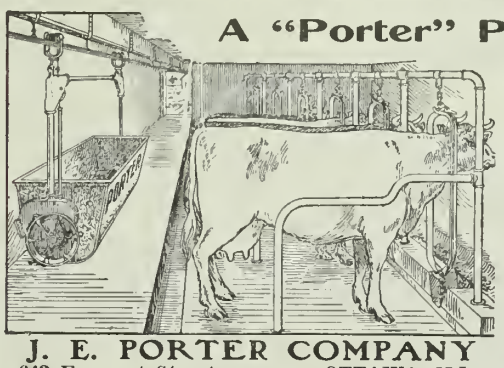
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"California Hog Book," by W. S. Guilford of this county, just from the press of the publishers, will fill a long-felt want in the agricultural literature of California. The book is practical in every sense, as practical as the author, who has so successfully combined his theoretical education with practical experience here in California. The new publication is more than a treatise on the various breeds of hogs—it is an ideal manual for the hog-raiser, who will run up against the same conditions as those solved in this book. "The book deals entirely with California conditions, and takes up every branch of the hog industry. The hope of the author is that the small land owner, the ten, twenty and forty acre man, may be induced to increase.

"Glen county people are especially forunate in knowing Mr. Guilford personally, thereby knowing that the book he has written contains facts which have back of them experience and reliable information. The book is profusely illustrated with halftones and line-drawings." —Orland Register.

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525 Market Street,
SAN FRANCISCO.

Farm Poultry for Profit.

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

FATTENING MARKET POULTRY.

Nobody wants to buy a scrawny, thin chicken to break their teeth on the tough muscles. Times have altogether changed in regrad to table poultry and their "fitness." The farmer who is perhaps better fitted than the real poultryman to fatten his own product, generally sells to a huckster who comes to his door, weighs the surplus cockerels or cull hens on a pair of scales that are already doctored and which he can manipulate a little more right under Mr. or Mrs. Farmer's eyes, then pays two or three cents less than he could give and still make a living.

All this is wrong, because the farmer could just as well fatten that stock and send it direct to some hotel, restaurant, or reliable commission man. The huckster who buys the fowls does not fatten them; he sells to some plant that fattens poultry on a commercial scale and puts them on the market fit to eat. To be fit, they must be tender, juicy, palatable, and nourishing. Chickens need frills to enhance their value as well as other foods do; and the more frills and better eating we can make them for the public, the more and greater will be the demand.

Now I am going to tell you in this paper how you, the farmer, can compete with these commercial fattening plants and by getting your family interested, keep the huckster's profit and the fattener's profit, extra weight included, right in the family.

While on my vacation I talked and visited with a lady who has a large squab plant. She sends her squabs direct to a large hotel in San Francisco and last month was getting 35c a pound, which price she says will rise by Christmas to 50c. Now if she was sending those squabs on the market the price would fluctuate, besides she would have to pay commission; but being an energetic woman, with a business head, she took a day or two off to hunt up her own custom. What she did any one can do.

Any farmer who has a few cows, or even one or two cows, can start a fattening plant on a small scale just for his own and perhaps a neighbor's surplus fowls. The first thing is to make a coop that will hold, say a dozen head. The front should be of stout round wire and just far enough between the wires to admit a chicken's head without sticking. Some make back and front of the coop of this wire and the ends of slats or lath, to allow ventilation. The coop must be placed out of the hot sun or sheltered from rain, but in some place where lots of fresh air can reach it. Make long troughs the length of the coop, about three inches deep and four inches wide; make them tight enough to hold liquids. These are fastened to the coops by wire hooks, to make them easy to remove and clean.

Bear in mind chickens must be in fair condition when put in these coops, as this is only a finishing process. Now, with troughs and drinking cups in place, sort out your chickens, or grade them, as you would any other produce. Cockerels of one size and about as near one weight as possible should be put together, and even then there will be a difference in the gains. The short thick-headed bird will put on flesh faster than the one with a long slim head and neck. Color of feather is not of any importance, but color of skin is very important. All white skinned birds, if well fattened, will grade as number ones because they can be what is called bleached. The bleaching is accomplished with condensed buttermilk, while ordinary feeding or fattening is done with just plain buttermilk or sour milk churned, to make it smoother. For the first twenty-four hours after putting the birds in coops give them nothing to eat at all—serve water and grit and just let them get good and hungry.

Commence to feed light after the twenty-four hours, a feed of equal parts cornmeal, shorts, and low grade flour, adding a little salt just as an appetizer. Mix the feed to a rather stiff dough with buttermilk or sour milk. Cut out the water and only give water when the weather is very hot. Then after they drink take it away. If they appear thirsty, mix feed a little thinner.

Watch for Those That Don't Eat. —After a few days of this feed change to more cornmeal and more flour, giving less shorts. If oats can be had as cheap as flour, ground oats with the hulls taken off is especially good, but the birds must have a change to keep up the appetite. It is a case of watching for the ones that fail to eat. Mix every bit of feed with the buttermilk or sour milk. The more condensed the milk is, that is, the less water you leave in it, the better and quicker your chickens will fatten. But even though you have no milk at all, you can still make big money fattening your own poultry, by feeding beef scrap and tallow instead of milk. During the last week of fattening with milk it is advisable to add melted tallow to the feed at a ratio of 6 per cent.

If the feed contains no milk the birds would stand 20 per cent of beef scrap for a short time, but too long might take them off their feed. If oatmeal could be bought as cheap as flour or cornmeal there is not a bit of doubt but that either would make much bigger gains in both flesh and fat, but they are almost out of the question at present prices. If the chickens show any signs of gas or watery crops serve charcoal for one or two meals and it will absorb all the gases.

Tallow added to the feed puts the fat on the carcass in ridges, but milk spreads it all over, so you can sult all fancies by catering to them, and believe me the day has come for the American farmer to cater to the markets.

Two weeks to one month is all that chickens will stand this intensive feeding and still keep an appetite, so this is the point to watch: When the appetite begins to flag it is time to sell.

Keep the troughs clean and sweet by daily scalding with boiling water and airing them; and never feed more than the birds will eat at one time. Failure to attend to this will clog the appetites of the best birds, then it is all over. Keeping them just a little short makes them ready

Classified Advertisements.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

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WANTED—About seventy-five young men and women to enter the WESTERN NORMAL on August 30th, to prepare for teaching. Western Normal graduates secure and hold good positions. We assist graduates to secure good positions and promotion. We save you time and money. For information address, WESTERN NORMAL, J. R. HUMPHREYS, Principal, Stockton, Cal., Box 704.

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WANTED to hear from owner of good farm for sale. Send cash price and description. D. F. Rush, Minneapolis, Minn.

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ADDRESS MILWAUKEE NURSERIES for French Prune Trees on Myrobolan Plum roots. Milwaukee, Oregon.

for the next meal and they cannot help putting on flesh.

DISTINGUISHING GUINEAS.

To the Editor: For the benefit of H. L. H. of Coachella, I would say I have raised guineas for several years and do not know of any way to tell the sex of the young ones until they are about three months old. Then the hens will begin to give their peculiar cry of "buck-wheat" or "polka-dot." The cocks do not give this cry. About a month later the wattles of the young birds will have developed sufficiently to indicate their sex at a glance. The wattles of the hens are rather small and point backward, parallel with their bodies. Those of the cocks are large and rounded and curl under with the flat sides forward. When approaching the cocks, they will often lower their heads to the ground and mince along on their toes. E. M. J.

Denair.

PHEASANTS AT $2 PER.

For the next year the Oregon State Fish and Game Commission will pay Eugene M. Simpson $2 for each China pheasant he will raise on the State Game Farm at Corvallis. The State furnishes the game farm, fully equipped with breeding stock and pens, etc., while Simpson will merely defray the operating expenses. Simpson is to deliver not less than 3000 nor more than 5000 pheasants during the year. In the last five years the total expenditures for the game farm have been $36,447.61. During that time the farm has produced 11,508 birds.

APPROVES RABBIT CONDITION POWDER.

To the Editor: Since reading about the condition powder used by S. F. Streaner of Hughson, in the Rural of September 18, I gave it to my rabbits and they are doing finely. Before I used it I lost several with slobbers or whatever it might be called. I wouldn't be without it. Geo. A. Turner.

Morgan Hill.

WHO WILL KILL THESE RATS?

To the Editor: Would you kindly publish in your paper the best way to rid ranch buildings of rats. I have tried rat biscuit, rough on rats, etc., but with no success.—A Subscriber, Milpitas.

[We have no especial wisdom on this subject. Who will take it up?—Editor.]

POULTRY NOTES.

The Schellville Poultry Yards, of Sonoma, are preparing for a good run of orders for baby chicks this season.

The poultry department of the Standard Stock Farm near Ukiah has been leased for five years to John Hemmings.

F. H. Rhode of Sonoma states that he has booked orders for baby chicks to almost his full capacity for February and March delivery.

H. Sammons, of Santa Rosa, says the poultry yards in that district need to be plowed up twice a year and limed to keep the ground sweet.

According to W. S. Shoemaker, of Ukiah, Indian Runner ducks are easier to raise than chickens, and he receives 5 cents a dozen more for their eggs.

A new poultry plant is under construction by E. E. Small on his ranch near Windsor, Sonoma county. The hen house will be 16X100; the brodder house, 20X40.

The G. & G. Poultry Farm, of Sonoma, has just received a shipment of four birds from the Wyckoff Grand View Farm, New York. The four birds cost $55 delivered.

The Mammoth Poultry Ranch of Napa now has a flock of 10,000 White Leghorn hens. They plan to hatch 25,000 chicks this season; most of the demand for their product is local.

With the rising egg market, more interest is being displayed among the poultry raisers of Napa county. The hatcheries report orders coming in for both winter and spring deliveries of baby chicks.

St. Helena will be represented at the Exposition Poultry Show by two breeders of Plymouth Rocks: G. E. Tobin will select birds from his flock of 400 fowls for entry in all classes, while F. P. Penn expects to get in on the prize money in the regular class.

R. R. Royal, who has a poultry plant in the Potrero district,, reports that his small flock of fall hatched fowls, now one year old, are laying eight eggs for each one produced by his spring hatched flocks. He has his incubators set to full capacity this season.

The Valley Vista Farm near St. Helena has completed a new poultry house 20 feet wide and 200 feet long; it is intended to add another house of this size, which, with the brooder and growing quarters already built, will provide accommodation for 3500 hens. The owner aims to make this one of the model poultry plants of Napa county.

The Bay Counties' Pigeon Club was organized in San Francisco on July 16. At the first meeting of this organization, Dr. Frederick D'Evelyn gave a very interesting talk on the study of domestic animals and birds, and W. E. DeLong spoke on the exhibition of pigeons and squabs at the coming show at the Panama-Pacific Exposition. H. L. Walker, 4128 24th St., San Francisco, is organizer and business agent.

Poultry Breeders Directory

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

BABY CHICKS—Orders booked now for immediate or Spring delivery. Get our vigorous little chicks and be assured of a plentiful supply of eggs next Spring. Our breeds—White and Brown Legborns; Black Minorcas; Rhode Island Reds; Barred Rocks. Write for circular. We also breed Flemish Giant Rabbits, "the real Giants." Campbell Poultry Ranch, Campbell, Cal.

BABY CHICKS AND EGGS—Hoganized Black Minorca, White Legborn stock specialties. Free instructions on raising chicks. Hicks Jubilee Hatchery, Petaluma.

BARRED PLYMOUTH ROCKS—"The kind that Win and Lay." Choice stock for sale. Catalog free. Chas. H. Vodden. Box 396, Los Gatos, Cal.

THE SANTA CLARA VALLEY HATCHERY can fill orders for 8 varieties of baby chicks and ducklings. J. A. Bihn, R. 6, San Jose, Cal.

WHITE PLUMAGE POULTRY FARM and Hatchery. Sells Fall and Winter chicks. White Legborns. Barred Rocks and Rhode Island Reds. Circular free. H. A. Schlotthauer, Exeter, Cal.

CROLEY'S EVERLAY EGG MASH AND CROLEY'S SCRATCH FEED form a perfect balanced ration. Ask your dealer for them.

TRAPNESTED LEGHORNS—White and Buff Stock. Eggs, chickens. Arthur R. Schroeder, Box 179E, Mountain View, Cal.

POSITION WANTED by experienced poultryman. Correspondence solicited. J. H. Severance, care Pacific Rural Press

ORPINGTONS, BUFF AND WHITE, Black Minorcas and Carneux pigeons. Mrs. Susan Swaysgood, Pomona, Cal.

BARRED ROCK PULLETS for sale Fairmead Poultry Farm, Fairmead, Cal

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LEADING RABBITRY IN AMERICA—Flemish Giants and New Zealands. Cut your living expenses. Catalogue free. Empire Rabbitry, Empire, Cal.

BOSWORTH'S Imperial Red New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville, Cal.

BELGIAN HARES—Young stock for sale. Hurd Bros. St. Helena, Cal.

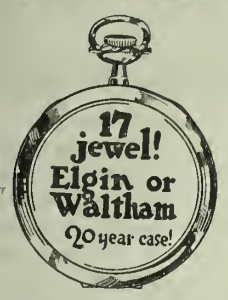
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HART'S BRONZE TURKEYS—Limited number of last season's breeders for sale at reduced prices. Albert M. Hart, Clements, Cal. (Successor to Ed Hart.)

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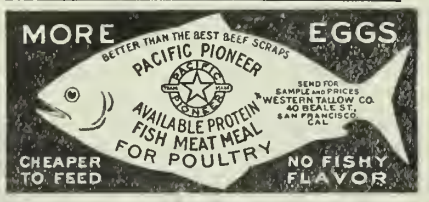
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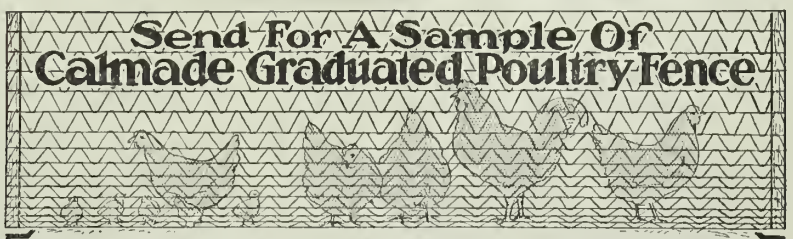
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The Fence Without a Sky Line

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It is the only fence made with a bottom mesh smaller than one inch. It will turn the smallest chickens. Because of the straight line, continuous weave of "CALMADE GRADUATED" Fence, baby chicks won't hang in it, large fowls can't climb it.

"CALMADE GRADUATED" Fence will not slip at the joints nor unravel when cut. Uniform in weave and width. It unrolls flat as a board—it is easily put up and stretches without bulge, kink or bend on posts 16 feet apart. Learn all about these advantages and let your next fence be a "CALMADE GRADUATED." Write at once for free samples of wire used, free illustrated folder and name of nearest dealer.

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Standard Bred White Plymouth Rock. Fishel and Owen Farm Strains Direct. Hens one and two years old $18 to $24 per dozen. Four to five months' old pullets, $18 per dozen. Selected Cockerels and Cock Birds, $5 each and up.

The Home Circle.

Conducted by Rena Shattuck.

THE MODERN HIAWATHA.

He killed the noble Mudjokivis,
Of the skin he made him mittens;
Made them with the fur side inside,
Made them with the skin side outside.
He, to get the warm side inside,
Put the inside skin side outside;
He, to get the cold side outside,
Put the warm side fur side inside,
That's why he put the fur side inside,
Why he put the skin side outside.
Why he turned them inside outside.
—Anonymous.

THE LARKSPUR.

In a downy nest in the long-matted grass a family of meadow-larks broke through their tiny shells, and as each little lark appeared the mother trilled the good news to her mate, who was industriously seeking bugs and worms for his family larder. There were five little birds in all. Four were strong little fellows, anxious to try their wings, and it was not long until they learned to fly and had soared away into the great blue vault of Heaven. The last of the little family was timid, and shrank from going out into the great big world. He saw the dangers that his more courageous brothers and sisters laughed at. There were ugly scaley snakes in the grass waiting to swallow him by inches. He had seen them as he peered from the edge of the nest, and he saw one gliding away after swallowing a little green frog. Then he saw a little prison made of wire and a wild bird dashing itself against the sides as the jailer, a boy with big hands and feet, carried it away. The lark was terrified by all this and more that he had seen as he gazed from his downy home.

But the old birds got tired of keeping up the nursery, and the mother, after singing to the baby lark, telling him of the great, big, beautiful world and all that he was missing, was vexed because he was still unwilling to try his wings, and pushed him out of the nest. Down he fell into the sweet fragrant grass, fluttering his tiny wings. He liked the sensation of sailing through the air and forgot about being afraid until a little girl, going along swinging her schoolbooks by a leather strap, spied him and chased him here and there until she caught him and held him for a minute in her soft, warm hand.

He heard his mother cry out in alarm, and he fluttered out of the girl's hand and flew to a branch far above her head. He led a life of terror from now on, and one morning he could stand it no longer and, flying to a rustic fence, he trilled his tale of woe to the great, beautiful Sun—the God of Day. What a song of melody poured fourth from his tiny throat!

"Dear Sun," he cried, "help me, for I am such a little fellow in this great big world. I'm so afraid for everybody is trying to kill me. I can't escape much longer. Yesterday, a beautiful girl pointed me out as I was singing my morning anthem to thee, and said to her companion, 'Shoot that lovely lark on the fence for I want his breast and wings for my hat.' Think of that—wanting my poor little life to make her more beautiful. 'If you get him, pull his wings off and skin him while he's warm,' she said. Then the man aimed a long slim gun at me. There was a bright flash and a terrible noise, and the rail from which I was singing my hymn of praise, was splintered and broken. I flew away into the blue heavens, only to be chased by a big black hawk, who wanted to feed me to his little ones. Then I flew to earth and a big cat with wicked eyes tried to grab me. A man, who had a whole bag of dead birds, tried to shoot me to make a lark pot-pie. There are ugly-looking traps set for me, and boys with sling-shots throw stones at me and call it sport. Dear, Sun, help me, I pray thee, free me from the bondage of a bird with all the cruel traps set for it.

"The Sun winked and blinked, then hid his face behind a cloud for a minute. When he appeared again, he was radiant and replied:

"I will grant your wish. Fly to that green little hill and sink into the tall grass, then hide your head under your wing and go to sleep; when you wake you will be in a new form, for I shall create you into an attractive and lovely flower.—the Larkspur."—Polly Larkin.

HALLOWE'EN.

The Eve of All Saints or All Hallows, Oct. 31st, is almost here and there is much plotting and planning for the Hollowe'en parties. The country girls have the advantage over the city girls in some ways, for the woods, fields and gardens can yield up treasures galore for appropriate decorations. There are stacks of lucky black cats being cut out of black pasteboard, some with phosphorus eyes, so you can imagine the effect of the uncanny looking cats swaying on the ends of threads fastened to the ceiling, and making a border round the room, when the lights are turned down. All the good-looking pumpkins have been reserved to welcome the guests with their candle-lighted faces. There are all sorts of devices to foretell what the future holds. The "seven signs" is one of the most popular. A basket of rosy-cheeked apples is passed around and as the guests enjoy the fruit, appropriate stories are told. Then comes the counting of the seed. "One, I love; two, I love; three, I love, I say; four, I love with all my heart and five, I cast away. Six, he loves; seven, she loves; eight, they both love; nine, he comes; ten, he tarries; eleven, he courts, and twelve he marries." There are all kinds of fun in reading the tea-leaves and coffee grounds. It would require a page to tell all the witcheries of Hallowe'en and it is for the young folks to read the signs of the times on that occasion.

MUSIC IN THE HOME.

Gone are the days when the melodeon and the organ held sway in both town and country homes, in fact, no home was deemed complete without one. Then the piano gradually relegated the melodeon and the organ into the background. Many times not one of the family knew how to play, but the piano was a monument of success and good cheer in the eyes of the community and a handy article of furniture to help entertain company. Now comes the Victrola and graphophone, to not only delight every lover of music, but to educate them as well. It gives them the opportunity of hearing the finest composers and a class of music they had been strangers to. Furthermore they are reasonable, for they can be purchased for twenty-five dollars and up; and every modest home in the country can have one of these treasure-troves to entertain their friends, whether it be a musical or a dance, a wedding or just for their own comfort and pleasure, with a wealth of delightful music. From grand opera to the popular rag-time, from wedding marches to hymns. There has never been an age in our time when so much joy could be carried into town and hamlet, mansion and vine-clad country homes, in the waves of sweet sounds that are pent up in these instruments and at so small an expense. No home should be without one. Just try one and see what a tonic it is to jaded spirits and weary bodies.

CULINARY SUGGESTIONS.

Brillat-Savarin said, "Tell me what you eat and I will tell you what you are," placing this famous saying fourth in his list of fundamental truths, and although an irreverent youth is reported as saying "Eat shredded biscuit and turn into a soft cushion," there is something deeper than a smile in Savarin's philosophy.

Almost all vegetables — except beans—should be cooked in as little water as possible; then this water should be thickened with butter, cream and the tiniest amount of flour for the sauce.

Green tomato butter is made by slicing eight pounds of green tomatoes very thin and chopping one orange and one lemon very fine, being careful to remove the seeds. Boil together one hour, add five pounds of sugar, a small teacup of vinegar, and cook until it becomes a clear, smooth mass. Put this in jelly glasses.

HOUSEHOLD HINTS.

To Wash Sweaters.

Knitted or crocheted sweaters or scarfs can be washed to look like new. If the sweater is folded as flat as possible, placed carefully in a pillow case and run through at intervals with basting thread to keep it in position, it can be washed with the ordinary flannels. But if it is a very delicate sweater it is best to wash it separately in soap suds made by dissolving a cake of shaved white soap in enough boiling water to make a gallon, and to this adding a tablespoonful of ox-gall. Souse it up and down with the hands, but do not rub it. Squeeze out the water by patting between the hands and rinse in three waters. Then wring it, place between two dry sheets and twist lightly. Press while still hot with a warm iron.

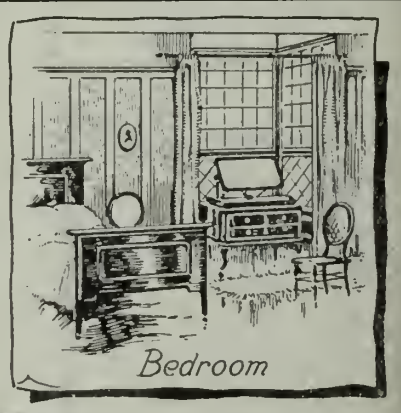
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rt powdered orris root between the olds of the ironing blanket. A delate perfume will permeate the othing.

When washing and rinsing colred materials add a tablespoonful Epson salts to each gallon of wa-r, and even the most delicate ades will neither fade nor run. erge and similar materials which ave been dyed black can be safely ashed in this way without any risk f the dye running. Oil of eucalypus sponged gently on the spot will emove grease or oil stains from delate fabrics.

To overcome the itching of hives, athe the parts affected with vinear and water and sprinkle with oda.

A drop or two of onion juice aplied to the spot where the "bee ung you" will quickly overcome the oison.

FASHION TIPS.

Prospective brides who are puzing their pretty heads in regard to eir trousseaus may find the folwing suggestive lines of some astance:

What to Wear.

Married in white,
You've chosen all right.

Married in black,
You'll wish yourself back.

Married in red,
You'd better be dead.

Married in green,
Ashamed to be seen.

Married in blue,
You'll always be true.

Married in pearl,
You'll live in a whirl.

Married in yellow,
Ashamed of the fellow.

Married in brown,
You'll live all around.

Married in pink,
Your spirits will sink.

Subterranean green is one of the w shades for the fall styles.

Checks and plaids still hold their n and are shown in many of the w fabrics.

The fad for black and white is not ning. It is always in good taste, d though it has been worn all mmer, the fall styles still continue t show its popularity. It has been ried into the home decorations as ll, and those who have adopted the f have their wall paper in black d white stripes, the border of large k roses, and their window drapes to correspond. It is certainly new departure, but I imagine one uld soon tire of it.

You can certainly have a choice in es nowadays, for there are green es and red shoes, blue shoes and ite shoes, bronze, tan and black, l gray shoes to match the demure aker-gray costume. Some of the w footwear in black patent ther are stitched in white, others re seams running from the toe —a one-piece leather shoe. Then re is the shoe laced up on the e that awakens memories of other s, for in my treasure box is a r of little white satin shoes, yel- with age, side-laced with white n ribbons, a dainty lace handkerf and a wedding veil lay be- them, and there is a faint odor avender as the box is closed upon art of a wedding outfit of fifty rs ago. "Fashion, like history, eats itself."

GARDEN LORE.

A French scientist once spent forty-five years and about $90,000 in attempting to produce a blue rose by artificial culture.

It's getting to be a highly efficient world. Yesterday the dean reported this sign on a florist's motor car: "Growers of Cut Flowers."—Detroit Free Press.

I don't know of anything that will give more real pleasure and with very little trouble than a bed of mixed nasturtiums. Plant your first seed and give them all the water they need, and they will clamber over unsightly fences and sheds, making a lovely picture with their bright, velvety flowers and green leaves. They will repay you many times over and will scatter their seeds broadcast. They are beautiful in hanging baskets. and very effective as cut flowers for the house, if you cut them with the long tendrils. They will keep fresh and thrive in water for days.

Do you care for mushrooms? A little lady, who has proved a very successful gardener, gives this hint in regard to her having mushrooms in season and out of season. She keeps her lawns enriched and every time it is newly fertilized she plants small pieces of mushroom spawn through it, with the result that there are pink, appetizing mushrooms creeping through the grass quite frequently, when they are not to be found anywhere else.

SCHOOL NOTES.

The all-year-round school is one of the late reforms in school work, and originated in Gary, Ind. The advocates of it claim that the scholars, by this system of all-year-round work, get through school from three to four years earlier than if they had taken their vacations, and are ready for their business career. Eight new buildings, especially designed for the all-year schools, are being erected in New York under the special supervision of Superintendent Wm. Wirt of Gary. They will contain gymnasiums, baths, and the latest equipment for vocational work.

The San Francisco school system is to be thoroughly overhauled. Dr. P. B. Claxton, commissioner of the United States Bureau of Education, assisted by a Citizens' Educational League composed of thirty-five representative citizens, will attend to the reconstruction work. The San Francisco Chamber of Commerce will finance the work of Dr. Claxton to the extent of $10,000. The idea is to bring about greater uniformity, to use the funds to the greatest advantage, and prevent economic waste, etc. The Collegiate Alumnae Association report on school conditions show that out of 150 of the largest cities San Francisco ranks lowest in the amount of money expended on the schools in proportion to population or property values. The changes under consideration are: the increased appropriation to provide enough teachers to reduce all classes to forty pupils, extend manual training, restore the English lecture system, make temporary shacks livable, and relieve present over-crowding, installation of up-to-date system of bookkeeping and standard system of financial record, introduction of time sheets and service record, and employment of experts to pass on school sites, buildings, plumbing, etc.

CLIPPINGS.

"An ounce of prevention is worth a pound of cure":

The girl who is inclined by nature toward stoutness must diet vigorously in order to keep her weight down and must beware and take care if she does not wish to be overtaken by the dreaded flesh.

If a girl belongs to a family of heavyweights, but is herself sufficiently slim for her size, she need not congratulate herself too soon on her sylphlike shape, but should keep on the sharp lookout for any increase in size. Once she begins to grow stouter she will be amazed to see how rapidly her weight increases.

At the first signs of hateful fat the girl should begin a vigorous campaign against the enemy before she is absolutely conquered by it.

The first and most powerful weapon to use in this warfare against flesh and diet and exercise. The diet should eliminate all sweets (cakes, candies, desserts, sodas, sugar in tea or coffee, etc); all starchy foods (rice, white bread, potatoes, beans, peas, etc.), and all fatty foods (cream, milk, chocolate, etc.). However, it is a great mistake to cut down too much on the amount of food, for it only produces weakness.

Another point about the diet is this: It is better to take three slim meals, consisting of non-fattening foods, than to eat only one meal a day, in which enough is eaten to make up for four other meals. A great many women follow this form of dieting, giving up all but one meal, but they eat enough at this one repast to make up for all their dieting.

CRUELTY TO A WIFE.

The man at the suburban breakfast table looked up from his morning paper and said to his wife:

"Seven hundred people killed yesterday in a steamboat accident."

"Indeed!"

"Latest accounts of the battle in East Galicia shows that 10,000 have been destroyed and 50,000 taken prisoners."

"Well."

"Strikers' riots threaten destruction of property all over the country. Million-dollar fire yesterday caused by bombs."

"Um!"

"Germany declares war on the United States."

"Dear me!"

"Here's your name in the sporting column, winner of second prize in yesterday's putting contest."

Snatching the paper from his hand she exclaimed:

"If that isn't like you! To keep the only important thing for the last!"—Life.

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247 S. Los Angeles St., Los Angeles.

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Prompt Shipments Anywhere
7 ft. posts $25 per hundred

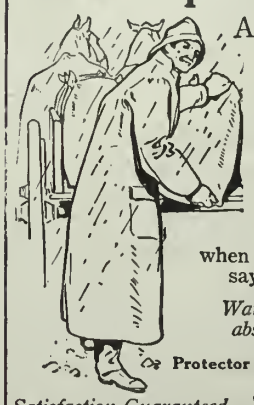
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Morris and Snow Seed Co. 439 S. Main Street Los Angeles, California.

The Markets.

(Unless otherwise noted, prices quoted are f. o. b. San Francisco.)
San Francisco, Oct. 13, 1915.

WHEAT.

Values locally show no further change, but the situation in the larger markets is decidedly firm, owing to recent developments in the war, and a further advance is not unlikely. Trading here, however, is not especially active.

(Wholesale Prices, S. F.)

Cal. Club., ctl.	$1.65	@1.67½
Northern Bluestem	1.70	@1.75
Northern Club	1.65	@1.67½
Northern Red	1.55	@1.65

BARLEY.

The export movement is proceeding rather slowly, and buying of either spot or future grain has been a little quiet for the last few days. The market, however, remains steady at the former level.

Shipping, ctl.	$1.25	@1.30
Choice Feed, ctl.	1.17½	@1.22½

OATS.

Seed oats are in more demand than feed at present, and prices on recleaned stock are well maintained. Feed is in fair demand, however, with offerings sufficient for all current needs.

Black, ctl.	$1.85@2.00
Red Feed	1.25@1.30
Red Seed	1.50@1.75
White	1.30@1.40

CORN.

All grades have recovered little from last week's drop. There is no heavy trading here, but reports of crop damage in the Middle West have caused a firmer feeling at primary points.

Eastern Yellow, ctl.	$1.65@1.70
Milo Maize	1.45@1.55
Kaffir	1.55@1.65

BEANS.

The bean market seems to be reaching a little more settled basis, though there is a large acreage in the Sacramento Valley still to be harvested, and the size of the crop is still rather uncertain. On most varieties the market is very firm. Small whites are higher, and both small and large whites are in strong demand, owing to the Eastern shortage. Pinks and bayos also are quite firm, and limas appear in good shape, with a very strong demand during the last week. Blackeyes and garbanzas are weak, with hardly any demand at the moment, and a heavy crop of the former. Red kidney beans are lower.

(On wharf, San Francisco.)

Bayos, per ctl	$4.10@4.20
Blackeyes	2.75@2.90
Cranberry Beans	4.10@4.20
Horse Beans	2.25@3.00
Small Whites	4.50@4.60
Large Whites	4.20@4.40
Pink	3.25@3.50
Limas	4.50@4.60
Red Kidney	5.00@5.25
Mexican Reds	4.50@4.75

SEEDS.

There is a good deal more inquiry, both for alfalfa and the various cover crop seeds, but the heavy movement is awaiting a good rain. Values remain as last quoted.

Alfalfa, per lb.	17 @18 c
Melilotus Alba	30 c
Melilotus, Indica	6 c
Bur Clover	11 c
Oregon Vetch	4¼ @ 4½c
Soy Beans	6 c
Canada Peas	5½ @ 6 c
Sudan Grass	40 c

HAY.

Arrivals are still decreasing, indicating that the fields are now well cleaned up; and as it is necessary to draw on the warehouses for much of the current requirements, prices rule higher on practically all grades. Fancy hay in light bales brings as high as $17 or better, but is very scarce: but No. 1 wheat or oat sells readily at $15. There is still quite a lot of export business, and if sales are made on some inquiries lately received a further advance is expected. There is also a lively demand from various parts of the country. Alfalfa from the river district is scarce.

No. 1 Wheat	$12.00@15.00
do No. 2	10.00@11.50
Tame Oats	10.00@15.00
Wild Oats	8.00@10.50
Alfalfa	10.00@14.00
Stock Hay	6.00@ 8.00
Straw, per bale	.25@ .40

FEEDSTUFFS.

The only quotable change this week is on alfalfa products, which are higher in consequence of the scarcity and high price of alfalfa hay.

(Wholesale prices per ton, carload lots, San Francisco.)

Beet Pulp, per ton	$20.00@21.00
Alfalfa Meal, ton	17.00@20.00
Alfalfa Molasses Meal per ton	20.00@21.00
Bran, per ton	26.00@27.00
Oilcake Meal	38.00@39.00
Cocoanut Cake or Meal	23.00@25.00
Cracked Corn	41.00@42.00
Middlings	32.00@33.00
Rolled Barley	25.50@26.50
Rolled Oats	29.00@31.00

VEGETABLES.

The week opened with rather slow trading all around, and while there is a little more activity now, prices in several lines are lower. Tomatoes have been arriving in excessive quantities, and the accumulation has caused a sharp decline. Eggplant also is a little lower. String and lima beans are getting scarce, and have been marked up. Cucumbers and okra are doing a little better; celery is higher, with little offered so far. Artichokes are beginning to be a factor in the market, and have been added to the list.

(Wholesale Prices, San Francisco.)

String Beans	2 @3½c
Lima Beans	3 @ 3½c
Peppers, bell, box	40 @65 c
Tomatoes, lug	20 @40 c
Cucumbers, lug	40 @65 c
Summer Squash, lug	25 @40 c
Green Corn, sack	1.25@1.75
Okra, lug	40 @65 c
Eggplant, lug	25 @40 c
Celery, doz	15 @30 c
Artichokes, doz.	20 @35 c

POTATOES AND ONIONS.

Delta Burbanks are a little higher, though only occasional fancy lots will bring the top figure. Sweets show a further decline. There has been quite a heavy movement of onions East from Stockton, causing a sharp advance.

Salinas Burbanks	$1.25@1.60
Delta Burbanks	.90@1.10
Sweet Potatoes, ctl.	1.10@1.25
Onions, ctl.	.90@1.00
Garlic, per lb., new	8 @10 c

POULTRY.

Fancy young stock is geting scarce, and first-class broilers have advanced sharply. Hens and roosters, however, are coming into competition with a large amount of Eastern stock, and prices show a downward tendency.

Turkeys, old, lb	17 @19 c
do, young	23 @25 c
Broilers, 15 lbs to doz and less, lb	30 c
do, over 15 lbs to doz	22 @24 c
Fryers	18 @19 c
Hens, extra, per lb	16 c
Small Hens, per lb	13 @14 c
Smooth Young Roosters per lb	18 c
Squabs, per doz	2.00@4.00
Geese, per pair	2.00@2.50
Ducks, young, lb	13 @14 c
Old	12 @13 c
Belgian Hares	8 @ 9 c

BUTTER.

Arrivals continue about the same, and are well taken up for current requirements. Prime firsts are a little lower, but extras and firsts stand as before.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	27	27	27	27	—	27
Prime Firsts	25½	24½	24½	24½	—	24½
Firsts	24	24	24	24	—	24

EGGS.

Arrivals are falling off a little, as usual at this season, and with a rather heavy local call for extras, this grade has jumped 4c. from the last quotation. The advance in pullets is slight.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Extras	41½	42	43	44	—	46
Sel Pul.	37	37	38	38	—	38

CHEESE.

Everything in this line is scarce, and with a very fair demand prices are all higher. Fancy Y. A.'s have jumped 2c., and flats 1½c. over last week's figures.

Y. A.'s, fancy	18 c
Fancy Calif. flats, per lb	17½c
Calif. Cheddar flats, per lb	16½c
Monterey Cheese	16@17 c

LOS ANGELES DAIRY PRICES.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Butter	26	26	26	26	26	26
Eggs	38	38	38	38	40	40
Cheese	12	12	12	12	12	12

DECIDUOUS FRUITS.

Offerings in many lines continue liberal, while the demand is easing up a little. On the whole, however, prices are keeping up fairly well. Huckleberries are coming in less freely, resulting in an advance; and strawberries are also higher, while blackberries have dropped. Some choice lots of figs do a little better, but the supply is still large, with a good deal of trashy stock. Pears show a much wider range, according to quality, only the better lots finding ready sale. Bulk peaches are cheaper, as the quality is nothing extra and supplies are ample; while attractive stock in small packages brings an advance. Apples are slightly easier, while quinces have been marked up a little. Persimmons are lower. Cantaloupes are getting a little scarce, and they, as well as watermelons are higher; and casabas, though arriving freely are quite firm. Grapes in general are rather firm, with an advance on malagas and black varieties.

(Sales in S. F. Market.)

Huckleberries, lb	5 @ 7 c
Strawberries, chest	$5.00@6.00
Blackberries, chest	3.50@5.00
Figs, bx., double layer	50@65c
Pears, Bartlett, box	1.00@2.00
Peaches, small box	35 @50 c
Lugs	40 @65 c
Apples, Newtown	.75@1.00
Belleflowers	60 @90 c
Quinces, box	50 @65 c
Pomegranates, box	1.00@1.25
Persimmons, box	.75@1.25
Casabas, doz	.50@1.50
Persian Cantaloupes, doz	1.00@3.00
Cantaloupes, lug	75 @90 c
Watermelons, doz.	1.25@3.00
Grapes, Thompson:	
Seedless, small box	1.00@1.25
Malaga, lugs	.90@1.25
Tokay, lug	75 @90 c
Muscats, lug	.85@1.10
Black, lugs	75 @85 c

DRIED FRUITS.

A good deal of dried fruit of all kinds has been shipped to Europe lately, but the domestic movement is not active, some lines receiving hardly as much interest as last week. The closing of the Panama Canal has had a disturbing effect; and as buyers generally are disposed to buy for nearby requirements only, the effect has been to delay some business for shipment, while stimulating sales on the spot in Eastern markets. Apples are quite steady as last quoted, and apricots show a further advance, with all offerings in the country closely cleaned up. Reports on prunes are conflicting. Local packers scoff at talk of an advance, and regard 4c. as an extreme price, saying that there is plenty of first-class stock available from northern points at considerable lower figures; while some of the San Jose packers quote 4¼ and even 4½c. It is generally admitted that large sizes are very scarce, and will command a substantial premium. Peaches were rather firm last week, but have eased off again, and offerings of choice Muirs are reported at 3c. Pears also are slightly easier. The New York Journal of Commerce says:

"An increasing activity dominates the spot prune market and buying is being done in practically all quarters where operators find themselves unprotected against the dearth which is expected to appear with the delay of shipments via the Panama Canal.

"The limited stocks sold in the New York spot market consisted entirely, according to well posted operators, of supplies of 1914 pack which had been carried over by th packers. Under the pressure of steady demand for these restricte quanties of California prunes price were ruled by a tendency to ac vance.

"Future Santa Clara prunes ar inclined to be quiet, with practicali no trading done in any quarte There is no change in prices fro the close on Wednesday when 40s t 60s, inclusive, were offered at range which was prevailing at th 3¾c basis f. o. b. common Coas shipping points for late October c November shipment. A premium c ¼c continues to be asked by th packers on straight 40s.

"With available supplies in th New York market reported to b rapidly diminishing, all stocks o California Raisins are very strongl held by the operators yesterday.

"Apricots display a strengthening tendency both in the New York market and on the Coast. Quotations for spot stocks remain unchanged, but prices are ruled by an upward tendency which is particularly marked on the fancy grades.' 1915 crop.

(Prices to Growers.)

Apples	6½ @6¾
Apricots, per lb	8½ @9½
Figs, white	4 @4½
Black	2 @3
Calimyrna	5½ @6
Prunes	3⅜ @4
Peaches	2½ @3
Pears	4 @7

San Jose Prices to Growers, 191 crop:

Apricots	8 @9
Prunes, sub. to dist.	3¾ @4½
Peaches	2½ @3
Pears	5 @8

CITRUS FRUITS.

The eastern auctions are still tak ing California valencia oranges a good prices, and shipments are go ing east at the rate of over 30 car of oranges and 14 cars of lemon daily. Jamaica and Porto Rico or anges are offered in the east in in creasing quantity, and Florida frui will commence moving early nex month.

The new orange crop in Tular and Butte counties is said to be tw weeks earlier than usual—som shipments already having bee made to Australia. Grapefruit ship ments from Tulare county will also be made this month.

At New York on Monday, Oct 11th, the auction averaged for va lencias from $6.45 down to $2.7 per box; for lemons the averag ranged from $3.95 to $3. At Ch cago the auctions averaged $5 t $5.75 for valencias and from $3 t $3.75 for lemons.

Oranges are coming in slowly at present, and with a light dema the market shows little feature with no change in values. Lemo and grapefruit are moving about usual at the old figures.

(Wholesale prices, San Francisco

Oranges, Valencias, bx	$3.75@4.
Grapefruit, seedless, bx.	2.50@3.
Fancy	3.00@4.
Lemons, box	1.50@2.

NUTS.

A very heavy movement of wa nuts is reported at the new price the impression being that practic ly everything has been disposed and there is talk of prices bei withdrawn. Almonds are moving steadily, but in quantities measur by the current demand. Prices a steadily maintained.

shipping point.)

Almonds (1915):	
Nonpareil	15
IXL	13
Ne Plus Ultra	13
Drakes	11
Languedocs	11
Walnuts (1915):	
Budded, per lb	17
No. 1	13
No. 2	10
Jumbo	16

HONEY.

A little honey is being shipp East, and further shipments h also been sent for Europe. The lo market is accordingly fairly fi though the demand here is sl

icy comb is scarce and higher, there seems to be enough ex-cted to take care of local needs.

ter White, comb	.11	@13 c
ber	.10	@11 c
ter White, extracted	6	@ 7 c
ht Amber	3	@ 4 c
k	.2½	@ 3 c

LIVE STOCK.

eef cattle have been coming in ly of late, but prices are pretty l maintained at the old level. ves also are in better supply; le sheep and lambs are firmly t.

(Delivered S. F.)

rs, No. 1	.6¼	@6½ c
o. 2	.6	@6¼ c
s and Heifers, No. 1	5½	@5¾ c
o. 2	.5¼	@5½ c
s and stags	.4	@5 c
es: light		8 c
edium		7½ c
eavy	.6	@7 c
s, grain-fed:		
00 to 300 lbs		6 c
00 to 200 lbs		6½ c
ne Wethers	.6	@6¼ c
s	.4¾	@5 c
king lambs	.7	@7¼ c

DRESSED MEATS.

rs	.10	@10½ c
s, large	.12½	@13 c
nall	.14	@15 c
e Wethers	.11	@11½ c
s	.10½	@11 c
ling lambs	.12	@13 c
	.11	@11½ c

HOPS.

here have been no foreign sales ntly, and domestic buyers seem e holding off entirely, so that market is in poor shape. A many growers show anxiety to resulting in a sharp decline. crop:

cramento	.10	@10½ c
egon	.11	@12 c
noma	.11	@12 c

WOOL.

ere is only a limited amount ring wool left, and prices offer-r that are lower, as well as for San Joaquin fall clip. Most of fall wool is not yet ready for et, and business is slow.

oldt and Mendocino	.18	@25c
mento Valley, lb.	.16	@21c
ern, year's staple	.13	@16c
months	.11	@15c

Fall clip:

n Joaquin	.7	@ 9c
rthern	.10	@14c

HORSES.

The local market has developed le better tone this week, pos-ibly on account of the first really ttractive offerings appearing in om time. A good sized lot of ortern California stock, weighing up 1800 pounds, was put up at auction, with better success than was expected; the whole lot being quickly sold out, though the prices realized for the heaviest type were nearly up to those recently quoted. Stock of medium weight finds only a light demand here, but there is considerable inquiry from the coun-try for good all-purpose horses, and it looks as if this demand would in-crease materially during the coming year.

Approximate values at San Fran-cisco, based on auction sales.)

raft	rs, 1700 lbs and up	$200@225
raft	rs, 1550 to 1650	150@200
hun	rs, 1350 to 1500 lbs	150@175
Wag	horses, 1050 to 1300 lbs	110@150
ree	Mountain range horses, 950 to 1200 lbs.	20@ 75
arm	workers	50@100

HIDES.

Values are well maintained, but the larger buyers in the Eastern market are holding off a little for the present, and there is nothing to indicate any further advance. Of-fers, however, are kept pretty well cleaned up.

heer, wet, per lb	17¼	@17¾ c
dry	.29	@30 c
ows wet	17¼	@17¾ c
dry	.29	@30 c
alf, wet	17¾	@18¾ c
dry	.31	@33 c
Horse Hides, wet, each	$1.00	@ 3.50
dry each		.75@2.25
Sheepskins—		
Lo; wool		1.00@175
Sh t wool	.50	@85c

SPECIAL DECIDUOUS MARKET REPORT.

By J. L. Nagle.

Sacramento, Oct. 11, 1915.

Due to the receipts of Tokays being slightly in excess of the demand during the past week, market conditions have been hardly better than normal, but as fully 80 per cent of the Tokay crop and 90 per cent of the Malaga shipments have been harvested, the movement of grapes will be considerably lighter from now on and the market will unquestionably respond accordingly. Favorable weather has benefited the quality of the grapes and in most cases where mildew is not apparent, berries have carried exceptionally well.

Receipts of domestic fruits in Eastern markets have fallen off considerably and on account of the grape juice factories taking a liberal supply of home-grown grapes, this, naturally, would eliminate considerable competition from California. On the whole, we consider the season to date on Grapes very satisfactory, especially as the receipts have been considerably heavier than was at first estimated.

The following prices have ruled for the week:

New York.—Bartlett Pears, averaged $2.65; Malaga Grapes, 95c.; Tokay, 98c.

Boston.—Tokay Grapes, averaged $1.03; Malaga, 98c.; Bartlett Pears, $3.25.

Chicago.—Tokay Grapes, averaged 86c.; Malaga, 87c.

Total shipments to date, 12,762 cars. Total shipments same date, 1914, 13,232¾ cars.

Publisher's Dep't.

After considerable persuasion the publisher has secured the promise from the editor of the Pacific Rural Press to write a series of articles covering certain phases of California agriculture, which we believe will be of vast importance to the State. For forty years Prof. Wickson has taken a leading part in the various changes that have occurred in fruit, stock and grain production of California. His work as editor of the Rural Press, as professor and dean of the Agricultural College of the University of California, as director of the Experimental stations, as author of several agricultural books—all have tended to give him a knowledge of and insight into conditions such as no other man could have. In writing the proposed articles, Prof. Wickson will give to the people his experience covering the past forty years of a very active participation in these lines. We believe that no series of articles has ever been published that will equal these, as no man is so well qualified by ability and experience as Prof. Wickson to write along agricultural lines. We will publish the first article next week, which will cover fruit tree planting as well as fruit marketing. Then will shortly follow others on the cattle and swine industries, grain growing, etc. We want every reader of the Rural Press to study these articles, as we believe they will prove of actual money value to every producer, as well as give him a clearer vision of the future of California and its greatest industry.

R. H. Whitten of Los Angeles, who has one of the show poultry ranches of southern California, near Glendale, writes us that, "I feel that the Pacific Rural Press should be given considerable credit for my success. In addition to your paper I used four other farm and poultry papers in California. Your paper pulled the most replies, the cost per inquiry was lowest, the proportion of sales to inquiries was greatest."

A new advertisement to our readers will be found in our columns this week. The Union Tool Company of Los Angeles is putting the Ideal tractor on the market. Read their announcement.

Dean Thos. F. Hunt of the College of Agriculture, University of California says of the California Hog Book: "It seems to me that it is a real and worthy contribution to the subject. I hope it will have a large sale."

One hundred and ninety-two new subscribers were added to our list during the past week. We want our field men to make the number in excess of 200 next week and believe they will do so.

VINA VINEYARD TO GIVE WAY TO ALFALFA.

It is telegraphed from Vina that the famous vineyard at that place goes out with a rush. During the last week of September the vineyard on the Stanford ranch is harvesting its last crop of grapes, which is estimated at 6000 tons, and is being shipped to Portland and San Francisco. Rapid work is the order of the day, as a ton of grapes is picked, hauled to the depot and loaded on the cars every four minutes. The vines on 1800 acres will be pulled up this winter and the ground seeded to alfalfa, in addition to the hundreds of acres now in that plant, which keep fifty men busy in the haying season with twenty mowers and twelve rakes.

LARGE DISCHARGE SAVES POWER.

[Written for Pacific Rural Press.]

Friction of water in the pipes must be considered in selecting pump equipment. One farmer we know, who forces water for alfalfa irrigation through several hundred feet of underground pipe direct from the pump. By using a standpipe or reservoir and lifting the water a few feet higher, he could let gravity force the water through the pipes, and reduce his engine horsepower.

The same holds true of outlet pipes from centrifugal pumps where the water is carried any distance upward or sidewise. F. L. Cook of Tehama county irrigated 18 acres of grain, alfalfa and orchard besides supplying his dairy herd and horses, by means of a 3 h.p. electric motor and a 2½ inch centrifugal pump with a large wheel. The discharge formerly was a three inch pipe. The stream would "knock a horse down across the drive." He knew it was using too much electricity. The motor was overloaded nearly a horsepower and in 16 days used 225 kilowatts—over 14 kw. per day.

A four-inch discharge was put on and the reading on Aug. 23 for 34 days previous was 264 kw.—7¾ per day. A 1000-gallon tank is filled in about five minutes.

Statement of the Ownership, management, circulation, etc., required by the Act of August 24, 1912, of Pacific Rural Press, published weekly at San Francisco, Cal., for Oct. 1, 1915.

Editor, E. J. Wickson, Berkeley, Cal.; Business Manager and Publisher, Frank Honeywell, Berkeley, Cal. Owners: (If a corporation, give its name and the names and addresses of stockholders holding 1 per cent or more of total amount of stock. If not a corporation, give names and addresses of individual owners.) Frank Honeywell, owner, Berkeley, Cal.

Known boldholders, mortgagees, and other security holders, holding 1 per cent or more of total amount of bonds, mortgages, or other securities: (If there are none, so state.) None.

Frank Honeywell.

Sworn to and subscribed before me this 4th day of October, 1915. [Seal.] C. B. SESSIONS.
Notary public in and for the City and County of San Francisco, California.
(My commission expires May 26, 1917.)

San Francisco, Calif.
Oct. 14th, 1915.

During the thirty days from September 13th to October 13th, the California Almond Growers' Exchange advanced to members nearly Three Hundred Thousand Dollars — the major portion being money borrowed on the credit and resources of the Exchange.

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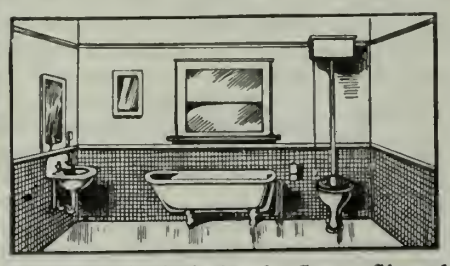
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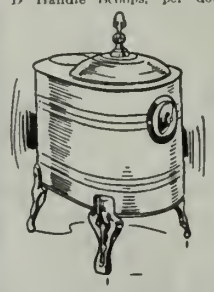
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D Handle, Square Point Shovels, per doz.	$4.15 or 50c each
Long Handle Spades, per dozen	$3.75 or 40c each
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Position and Promise of Fruit Industry.

First of a series of sketches in which the Editor presents suggestions drawn from long experience, of what Californians should think and do for the advancement of California Agriculture.

[Written for Pacific Rural Press.]

AS THE planting season approaches, it is timely to think broadly of the achievements of the California fruit industries and their relation to the future of the State. Recently there has been ample and reasonable exhortation that California should do more in other lines of production, and at the present time there is very keen interest in realizing the advantages which wider diversification promises. Californians are waking up to the chances of profit in growing better animals and in using idle land for forage plants, which reach their highest value when transformed into animal products. There are also chances of profit in growing better cereals and other field products and more of them, and these should not be overlooked.



Relation of Fruit-Growing to General Agriculture.—All such activity in other products than fruits is good for the State and really essential to its full development. In the enthusiastic pushing of them, it is perhaps natural that some advocates should claim that their present popularity constitutes a warlike drive on the fruit industries, because our fruit products have reached limits and other products should displace them. This is a great misapprehension. It would be more rational to claim that the extension of our animal industries will minister directly to the extension, in product and profit, of our fruit industries. There might be some rivalry, in the use of land and capital, among the products of which California is capable, if California were not so large and so various in its conditions of soils, temperatures, moisture-supplies, etc., but, as these things are, the promotion of other lines of production does not at all involve the displacement of fruit—except as experience has shown mistakes in the placing of them. Every forward step which California can take in more completely using land for other demandable products, and in increasing population capable of producing them, the greater and more stable our distinctive fruit products will become. We do not refer to increased local consumption of fruits. That will obviously come, to certain limits, and be, to that extent, helpful, but the larger benefit will be realized in greater producing advantages for world consumption.

California's Handicaps in Fruit-Growing.—One should always remember that the market-value of a hundred millions a year for California fruit products has been achieved in spite of appalling handicaps, viz: inexperience and ignorance of conditions, for practically no Californian of the first creative generation was either to the country or to the manner born; distance from market, two or three thousand miles by rail, and twice more than a mile high in making it, with four thousand miles by sea added for most European shipments; high cost of transportation which such distances involved; wages and interest on necessary capital several times as great as in old countries, whose products were challenged in the markets; large expenditures to gain recognition for the products and protection, all the way from a scale bug to the Congress of the United States, etc., etc. From the solution of these problems, and many more like them, it is clear that California planters, from 1870 onward, entered upon a world-quest heavily handicapped.

California's Achievements in Fruit-Growing.—In a word, California's achievement is a sales-value of fruits and fruit products, estimated at a hundred million dollars—greater than that of any State or country in the world, except the wine product of France.

This achievement was attained, in spite of all handicaps, because of two unparalleled advantages: first, the superlative, natural conditions of soils and climates, which produce both northern and semi-tropical fruits with exceptional commercial characters and suitabilities; second, the insight, energy and enterprise of Californians to build an industry upon the superior natural advantages of the State and to overcome all obstacles to accomplish it.

(Continued on page 396.)

PACIFIC RURAL PRESS

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California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at 5 p. m., October 19, 1915.

STATIONS	Rainfall Data: Past Week	Rainfall Data: Seasonal To Date	Rainfall Data: Normal To Date	Temperature Data: Max'm	Temperature Data: Min'm
Eureka	.06	.43	2.85	68	44
Red Bluff	0	0	1.67	84	50
Sacramento	0	.01	.94	84	50
San Francisco	0	.01	.96	76	50
San Jose	0	.04	.87	80	42
Fresno	0	0	.66	88	50
Independence	0	.09	.63	76	36
San Luis Obispo	0	.01	1.06	78	40
Los Angeles	0	0	.41	86	52
San Diego	0	0	.35	80	52

THE WEEK

Bawling and lowing have displaced neighing and whinneying at the Exposition, and the new music seems to be just as delightful in the ears of the countless thousands of people who are studying the magnificence of the bovine race, both in individual exhibits and in the collective manifestations on parade. Of course, the cattle show has not all the zip and dash of the horse show, nor does it rise so high in "sassiety" standards To worship lordly bulls and queenly cows men do not pinch their pants so tight, nor do ladies bespread themselves with embroidered nose-rings and three-legged stools as they do with whips, quirts and horse-shoes, but that does not mean that the genus Bos is not as fit to rule in society functions as is the genus Equus.

It is just possible that we are losing something in this country by not insisting that the bull shall be a matinee hero as well as the stallion. Not only actually but ideally, we are apt to keep one in a prison pen and the other in a cushioned apartment, thus exaggerating the brutishness of one and the lordliness of the other. Probably we are following too closely the traditions of our Anglo-Saxon lineage and too blindly worshipping the "sport of kings." Should we not broaden our view and become truer to wider human experience in the associations of men with the best of the lower animals? No doubt sweeter love songs have been stringed in Spanish bull-carts than have ever been heard in equipages drawn by champing, prancing steeds, and surely no purer joy has ever been patted by maiden upon glistening neck of favorite mare than happy milkmaid has whispered to her rose-decked kine. If you doubt it, consult the poets.

We fear society is false to the human heart when it lifts its fan as the garlanded bull comes near, in the parade, and gazes full-orbed on the no-less glorified masculinity of the all-conquering stallion. There may be some conscious affectation in this matter, and, if so, it is all the more unjust to the bovine race. It is comforting to think that it is not universal, and that there are nations which are just to the horned animal. The north-European housewife installs her herd in her front-room and freely bestows her all-cleaning affection upon her honored guests. No Arab ever housed and cared for his steed more devotedly, nor admitted him to the social life of his clan more fully than she her cow. No doubt it would make largely for the comfort and prosperity of the American people if its ideals of cattledom were builded more closely to the standards of the cow at her best than to the standards of the cow-boy. And it would help forward also all those who establish industries upon cows and their functions. We are simply pleading for justice to the bovine race, for the sake of humaneness and humanity.

Revelry for Rice.

Marysville has done a very proper and enterprising thing in calling a "rice carnival" to open in that city on Monday, October 25. Rice production is one of the most rapid and resolute drives which California has ever made toward the utilization of her resources and adaptations. It is true that rice has been dreamed about for several decades and some sporadic experimentation has been undertaken, but these are merely interesting historically; they had no connection with the quick uprise which began in the center of the Sacramento Valley. The Marysville carnival has particularly to do with the product of the five contiguous counties of Butte, Sutter, Yuba, Tehama and Colusa, although there is also rice quite largely grown in the San Joaquin Valley also. The estimated value by federal experts of the rice grown in the five counties named this year is $2,500,000. It is held that the average of production will be above last year, which was so great as to astonish experienced rice growers from other parts of the country. It is claimed that some fields may go above 100 sacks of well-matured rice to the acre.

It is certainly wise that such a quick development in one of the world's staple foods should be celebrated. It will no doubt take some time for the nations to realize that perhaps the best place in the world to grow an aquatic plant is in an arid country. It will help toward such realization to have it known that Marysville will have a display in a tent covering 40,000 square feet devoted to the rice industry alone. Miniature paddy fields, a complete irrigation system with huge pumps, threshing machine and a rice mill in operation will be among the features of the exhibition, and prizes will be awarded to competing exhibits in each of the five counties. It will surely be a historic event.

Two Kinds of Water.

Writing of rice naturally reminds us of water, and we hasten to say that, in the agricultural parlance of California, there are two kinds of it, viz.: top-water and bottom-water, and they have critical relations to each other. Top-water is usually the gentle rain which falls from heaven upon the place beneath, and sinks gradually through the soil-particles by gravity. Top-water may also be irrigation water, which may be rushed over the surface to take a similar downward course. Bottom-water is the ground-water reservoired in the lower strata of subsoil and disposed to rise by capillarity—more or less rapidly and far, according to conditions favoring such movement or otherwise. Now, either top-water or bottom-water will help a plant to grow, so long as neither too much or little of it comes into contact with the roots, but it is common experience that few plants are safe to run a profitable course unless downward water and upward water come together, each contributing to any lack there may be in the other, and both co-operating to bring the whole mass of earth, through which they are acting, to an adequately moist condition. When this occurs the thinking farmer slaps his thigh with joy, for he knows that, barring accidents in earth and air, his crop is sure.

Two Kinds of Rural Credit.

Inasmuch as we are all invited to vote next Tuesday, October 26, on what is called a rural credit amendment to the constitution of California, let us remember that there are two kinds of rural credit. One falls from the heavens of state-craft upon the people beneath; the other rises from the springs of altruism in the people, distributing prosperity among the people who create it and building up the State. To translate from the languages of the many peoples in whose experience these phenomena can be fully observed, we may say that there is a form of rural credit which is "builded down from above," and another which is "builded up from below." Of course, the United States is a nation differently constituted from many others, and we have not in this country any throne of a hangar from which a Zeppelin can be shot out to shower gold upon the people, to promote prosperity—the royal cure for popular unrest which threatens thrones—and we can not therefore build down from above as it has been done in some other countries. Can we then build down at all, and is there a metaphor bouyant enough to picture it?

Have you watched the construction of a sky-scraper? Have you seen them shoot up a few slender uprights of steel which looked like filmy streamers against the evening sky? And then, have you watched the appearance, high up in the air, of first an opaque nucleus and later still the outlines of walls, and then the progressive building downward from above of a building with scarcely visible means of support, until the stonework of the lower stories rises from below and meets the light descending sheathing and completes a structure which defies the earthquake?

It must be in some such way that we must realize the two courses of rural credit: the movement by the State towards the people and the movement of the people toward the State. And it must be with us a matter of currents and counter-currents of economics, not of politics—because we are ourselves the sovereigns, sometimes too little kindly to ourselves, and we also are the people, sometimes too blindly selfish to see the glories of a powerful, prosperous state, which is we ourselves. Still, in spite of these inconsistencies on our part as nationalists, the fiat has gone forth, from national parties, from presidents and governors, from Congress and from Legislatures in nearly all the States, that there must be rural credit in this country, by which qualified people who have land or desire to secure land shall have such capital as they deserve and can successfully use in producing operations, on such

erms and for such a rate of interest as their conditions require for success in their own living and in the living of all the people.

There is no use in blindly opposing, through prejudice or lack of understanding, such revision of constitutions and laws as are necessary to secure this consummation devoutly to be wished. This nation has never declared itself so clearly on any single question in its history as it has upon the enactment of rural credit legislation. The nation has split on slavery, on currency and coinage, on tariffs, on wars, on the very question of national life itself, but practically all the States in the Union separately and all the States together have declared that both individual and national prosperity depend upon defending food producers against the greed and extortion of money-lenders and food-traders. The State of California calls upon her citizens to give their sovereign consent that she, as the great entity which we have created for our own protection, may act for the advantage of all of us, in such ways as we shall command her to act, through the Legislature at a later date. Item No 5 on the ballot for October 26 simply provides that California shall have power to do what the California people shall require. Let the people declare that in this beneficent matter California shall be free. Vote for the Rural Credit Amendment!

A Busy 1916.

Oh, well, we have preached ourselves so tired that it is a joy to think that all we shall have to do next year will be to sit by the roadside and see all the world go by. Those great prophets of world-movements, the tour-managers and the automobile-agents, hasten to assure us that such a thing as reactions after the expositions is not to be thought of—that the expositions will prove but advertisements, which will bring to California more people next year than came this year. Perhaps, if you asked it, they would prophesy also that you could easily work off that piece of alkali-hardpan which you failed to sell to Exposition throngs, because next year people will not have so many other things to look at. However, this is the way they stack up the activity of the coming year:

"The Pacific coast, and especially California, has already been accepted as the future touring ground for the leisure touring class. The wonderful scenic attractions here especially have at last been recognized. We have received reliable information from the East that hundreds of motorists will ship their cars West this winter when the snow has filled the Eastern highways. They will remain here for the winter, and when the Lincoln highway is opened in the spring they will return home by this accepted route. It is now up to us to meet these tourists and make their visit so attractive that they will not only return, but will be instrumental in bringing others westward."

Speaking of tourist travel, it is interesting to note that there are being now freely circulated in our cities publications assuring Americans that the resorts in western and southern France and in Spain are ready for business in the old line and will give them a good time. It is the most delightful token of returning consciousness in Europe that has been shown since the war began. May there soon be broader signs of it!

Queries and Replies.

Querists must give name and address

Prunings for Fertilizers.

To the Editor: Do you know any way of saving the small brush after pruning for its natural work of fertilization? I am new in the orchard business, but it seems to me extravagance to burn the brush. If it cannot be returned to the soil, would it not be worth something for paper pulp?—S. B. C., Sunnyvale.

Various kinds of chopping machines for reducing prunings to small bits for plowing into the soil were proposed, and some were actually constructed, thirty years or so ago. Our observation is that none of them were used long, it being the conclusion that the product was not worth the $2 per day which it cost to hire men to poke the brush into the choppers. If any one has concluded differently and finds pruning-hash profitable, we shall be glad to hear of it. As for pulping, there is too much better material now going to waste in the lumbering regions to admit of a thought of putting in expensive machinery to handle prunings. So far as we know the only practicable way now is to burn the prunings in small piles or use a portable burner which scatters the ashes.

The Gooseberry: Limited.

To the Editor: Please tell me through your paper something about gooseberries. Do you think they would grow in Stanislaus county, not far from Modesto, and would there be any money in them, if they did grow?—Subscriber, Modesto.

Gooseberries will do fairly well in a garden in the interior valley if they have the shade of trees and the soil is kept evenly moist during the dry season, for they do not enjoy high dry heat. You need varieties resistant to mildew and California nurserymen do not usually offer any others. Gooseberries do best in the more moderate conditions of the bay district and enough are grown to supply the moderate demand. There is no reason to undertake gooseberries in the interior, except for local use. Californians, as a rule, have no use for ripe gooseberries, and will not take many green ones for cooking purposes.

Reinforcing Winter-Growing Corn.

To the Editor: Kindly advise me what is best to plant between corn rows for winter pasture. There will be considerable second crop corn in small heads that will be desirable to allow the stock to "hog off." We have in mind some variety of vetch, peas, rape or barley, anticipating also what would be most desirable for plowing in in the spring. You, no doubt, are familiar with winter conditions in the Coachella Valley.—J. A., Thermal.

As soon as the ground is moistened enough by rain or irrigation we should scratch in between the rows barley and vetch together, use it for winter pasture and plow in the refuse and shallow roots deeply for the following crop. This practice is based on the fact that the corn is apt to keep on growing and to forget that it is winter by the calendar.

Pruning Almonds.

To the Editor: My almonds will be three years old next February. I have never pruned them. They are nice, bushy trees. When is the proper time to prune, and would you advise me to prune? I believe they are too bushy.—P. G. M., Yuba.

They probably are too thick and have a lot of branches crossing each other or lying upon each other, and thus interfering with good foliage action. Your work would be chiefly thinning out surplus branching and cutting back to upright laterals branches which are drooping too much. You can begin this as soon as the foliage yellows and keep at it for the next two months or more.

Bell Peppers in Winter.

To the Editor: Will you tell me when and how to plant bell peppers for home use by the end of February and first part of April, as they are very high on the market at that time?—A. M. B., Fresno.

Peppers will only stand light frosts and will only hold over in nearly frostless places. This they are most apt to do in what are called the frostless belts, near the coast in Southern California, and that is the reason why the peppers are high priced at the dates you mention. If you box in a few plants with boards and cloth cover you may get fruit at these dates from holdover plants, grown the previous summer, unless you are in a very frosty place.

Almond on Peach.

To the Editor: What is your opinion about grafting almond upon seven-year-old peach trees? A good many claim they do not unite well, but blow out too easily.—Subscriber. Winters.

Old peach bark is disposed to shrink and draw back, and amputations of peach wood are very prone to decay because of this indisposition of the bark to grow over fast and well as other vigorous bark does. This leaves the graft not well supported, and it blows or falls off its perch. If you can work in new sprouts by budding or side-graft without splitting the stub and wax well over all and keep the stub waxed or painted over until the bark is well started in growing over, the graft will usually hold well.

No Rural Credit Law Yet.

To the Editor: Will you kindly let me know through your worthy paper if the new rural credit law has passed? If so, how can I communicate with the same?—Subscriber, Oroville.

No law has passed yet. You can vote on an amendment looking toward it at the election of October 26. No law can be passed in this state until the legislature meets in 1917. Congress may come through with something this winter. If anything had passed we would not be making so much racket about it—perhaps.

Reinforcing Alfalfa.

To the Editor: I have some two-year-old alfalfa that is a poor stand. Should I cultivate it and sow in or should I plow it up and re-seed it?—J. J., Livingston.

It depends upon how poor the stand is. If it is fairly good or good in spots, scratching-in seed in February, in your district, may help the bare places, since the stand is so young. A poor old stand is hard to catch in with. Probably, as a rule, when one is sure the stand is poor or worse, it is better to start over.

Rye and Vetch.

To the Editor: I want to sow grain of some kind in my bean ground, for winter pasture for hogs and cows. Which is best to sow: oats, barley, rye or vetch?—R. R. T., Turlock.

Sow rye and vetch. Rye is commended because of its disposition to make best early or mid-winter growth for green-feeding.

Position and Promise of Fruit Industry.

[Written for Pacific Rural Press.]

(Continued from page 393.)

In the course of this achievement, the following things have been done: (a) the introduction and establishment of all commercial fruits of the world, except the strictly tropical; (b) origination of methods of tillage, irrigation, pruning and training essentially new and now being recognized and introduced in all countries as "California ways"; (c) invention of methods and appliances for fruit preservation, through evaporation by sun-heat, which is largely impracticable under meteorological conditions of other producing states and countries; (d) organization of fruit preservation by canning and invention of capacious methods and machinery which are world-standards for efficiency and economy; (e) design and prevalent use of new-style packing houses, cleaning and grading machinery, stemming and seeding processes and appliances; new kinds of containers and envelopes for fresh and cured fruits; creation of labels which blink the "old masters" of pictorial art and "literature" which puts the classics to shame; (f) invention of methods and construction of establishments for pre-cooling, icing and re-icing in connection with refrigerater cars, which insure safe-conduct to fruits through thousands of miles of destroying temperatures; (g) discovery of insecticides and invention of spraying and gassing outfits which have set the pace for plant protection from pest and disease throughout the world; (h) organization of producers for reformation of the fruit trade, all the way from the tree to the consumer, standardization of fruits and regulation of distribution, systematic efforts to increase demand by advertising and employment of expert sales agencies involving the triumph of the new principle to sell the greatest amount of fruit profitably as a substitute for the old commercial ideal of selling the least fruit for the greatest price.

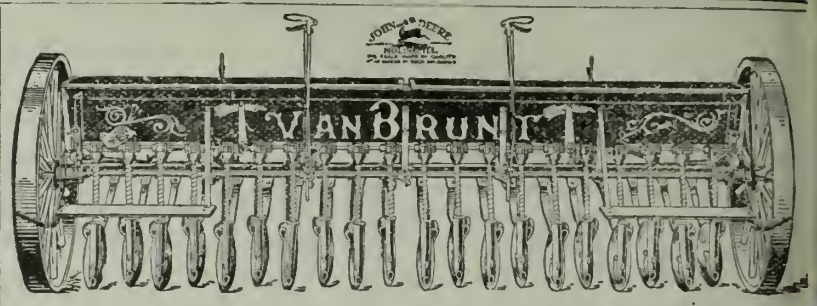
This enumeration of the changes wrought by horticultural manufacturing and commercial effort by California producers is not presented as complete. It is only representative and suggestive of the varied effort, investment and resolute spirit which have made fruit production and distribution the greatest and most distinctive industry of California.

Our Fruit Industries Will Continually Advance.—On theoretical grounds alone it would be possible to demonstrate conclusively that our fruit industries will continually advance. There is really only one course open to an industry which has manifested such unique superiority and acceptability of products that, in our greatest specialties, Uncle Sam has been changed from an importer to an exporter—and that course is forward. Again, a capable, well-established and progressive industry will grow as long as the world needs or desires its output—and the fact is that the world has always been more scantily supplied with fruits than with any other food-article. It has always had too little fruit to fully understand its wholesomeness and food-value. From the dawn of history until recently, fruits and fruit products have been the ambrosia upon which the god-like higher-ups have fed—except as, during a few days of the year, common people have gathered whatever their local climates have furnished, in the little garden or the wild, and counted a luxury or an appetizer. Systematically frugivorous people have only lately emerged from classification as cranks, but they are surely going some. Their speed and multiplication are directly conditioned upon the price and availability of fruit foods. It is an interesting fact that the present vigor and valor of the French and German belligerents are traceable to California prunes, and the English heart is stout in the trenches because of puddings made of California raisins. France and Spain could not supply the world with prunes and raisins as food: they were doing a good business in these fruits as luxuries, but the world has gone beyond that. And so California by making, in a full crop year, about four hundred million pounds of raisins and prunes, or perhaps six times as much as France and Spain ever combined to produce, is winning the world to a fruit diet—the ultimate result of which will be blood-cooling and enduring pacification; not because fruit will reduce the force to fight, but will make men too clear-sighted to follow tyrants into war.

Here again we come to a mine of facts which can only be indicated by sample. What has been said of the world aspect of our prunes and raisins is also true of all our preserved fruits and will also be true of our citrus and some other fresh fruits, when they get the mud out of the Panama canal and the barbarism out of Europe. One has only to visit European towns to see how scant is the fruit supply to be had for out-of-local-season use. What we have sent thus far has hardly been enough to whet the appetite of the common people for something good and within their price.

American Fruits for Americans.—Nor is it vastly otherwise on our own continent. It is true that fruit planting in other states has been large and the product is rapidly increasing, but it must be remembered that, except for apples and to a much less extent for pears, the fruits they grow have a short season—beginning late and rushing to an early close. Before their beginning and after their close, the eastern markets are practically open to us for fruits quite different from those they grow. We have simply to avoid their fleeting fullness and choose fruits and forms of fruit products to supplement their home-grown supplies. It is not to be forgotten of course, that even in the abundance of the latter we can always do some business with the greater beauty and keeping quality of the same fruits which they largely grow, if we send at such times nothing but our very best; a thing which, by the way, we should be doing all the time and may be forced to do for our own good.

But then remember this: The development of this continent is still



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oceeding more rapidly toward the rth than toward the south. There em to be larger surpluses of gold, grain and of grit, toward the le than toward the gulf. Immense velopment is being achieved holly north of suitability to fruit oduction. It is really a question nether a few years hence we shall ve any of our distinctive products fresh and cured fruits for Euro- an markets. It is clearly within asonable calculation that Califor- a, even by doing her best, with ea so small as compared with the ea of the continent, can do no ore than produce the fruits, which e alone can grow, to fill the North nerican demand. Really, people o sometimes claim that we ought be growing other products instead so much fruit, have a very scant nception of our opportunities and e requirements of success. We ght to build up the live stock in- stry, the cereal industry, etc., c., not only for their own sakes t because we shall have to grow much more fruit and employ so any more men and so much more oney in doing it. California needs rounded and self-sustaining de- lopment. We need more bread to ed more men; more men to feed ore stock; more stock to feed more ees; more money to keep them all ing. It is the call of patriotism d prosperity.

The Need of More Wisdom.—But, ter all, "wisdom is the principal ing." The secret of attaining ch farther extensions of the fruit dustries as our conditions invite d our development demands, is owing more as a foundation for ing more. In spite of great hievements, which have been ted, there still exists lack of defin- e knowledge and mental conception essential cultural and commercial nditions which will determine ture accomplishments. We are t to be too complacently ignorant, o conceited, too egotistically self- liant, too "independent" in a very d industrial sense. This matter large—beyond space for argu- ent: let it be attacked by sugges- ve catechetical category.

Can you tell by sight of a tree or ne whether it has vigor best for uit bearing or whether it is ex- berant or deficient, and do you ow what to do in either case?

Can you tell by sight of a tree or ne whether it is pruned to have e right amount of bearing wood d is arranged to give the right nount of fruit the proper carrying rength and exposure for best de- lopment?

Do you understand what recent il studies are demonstrating about il texture and content of plant od, aeration and moisture, as re- ted to the thrift of the tree or ne? Do you realize that the com- on conception of the root system the tree, as merely a sponge, is rong? Do you appreciate the fact at the unseen parts of the tree ave perhaps a greater and more aried sphere of activity than the p of the tree and demand at least ual cultural consideration?

Do you know exactly why ship- ers, canners and other fruit pre- rvers will pay more for some va- eties of fruit, less for other and ill wholly reject others—all being arieties of the same kind of fruit?

Do you realize that there are two extremely dangerous things to do in fruit planting: to blindly imitate and to blindly plunge? To put in or pull out what every one else is put- ting or pulling, is to be out of the game when the turn comes. To plunge in with some new thing which no one else is planting, with the idea of getting the start of everybody, may be a wonderful hit in supplying a tourist hotel, but it is as deadly as solitary confinement in connection with the general com- mercial demand.

If you know all these things you are entitled to receive the first de- gree in fruit-growing. Thirty-five years ago these things, and perhaps a hundred others like them, were not known. The pioneers entered of necessity upon an uncharted sea and it proved to be full of rocks and mines and submarines which scat- tered the financial remains of some of them around the horizon, but the industry came through on the wings of faith in the distinctive suitability of California. This suitability is not now a matter of faith: it has been commercially demonstrated in the eyes of the world. In future de- velopment, "wisdom is the principal thing."

Organization Is the Hand-Maiden of Wisdom.—To realize everything which we have stated or merely sug- gested, to be good and to realize everything else connected therewith or which enriched experience shall demonstrate to be good in coming years, there is one clear pathway and only one, and that lies through the medium of organization.

Every special branch of fruit pro- duction and manufacture must be organized to solidify the interest and enforce co-operative action on its special problems. All special inter- ests must be organized into a cen- tral co-operation which shall create and distribute economic advantages to all, through securing cheaper sup- plies of all kinds, cheaper transpor- tation, cheaper, wider and more di- rect distribution of products to con- sumers and to give collective assur- ance that nothing but what is good and representative of the state shall go beyond its borders. We are not undertaking to plan organizations but simply to indicate their scope. To us there appears at the moment no plan except that of representa- tive self-government of the fruit in- terests; central and auxiliary—each with its own scope and sphere of action and influence. There should be no "independents." It must be "each for all and all for each"—the true co-operative principle. This matter may arise later for separate consideration.

There must be proper organiza- tion of all state agencies created by the people to serve these indus- tries. The work of the executive horticultural department at Sacra- mento and its branches and func- tionaries at various points in the state should be differentiated from the instructional work of the Col- lege of Agriculture pursued also in various parts of the state by its rep- resentatives. The executive depart- ment should of course deal with the letter and spirit of the laws relating to fruit protection and other matters which pertain to the regulation and promotion of the fruit business as a state interest. The College of Agriculture should have a clear field in research and instruction for which it is established and outfitted and for which it has state-wide extension machinery and men.

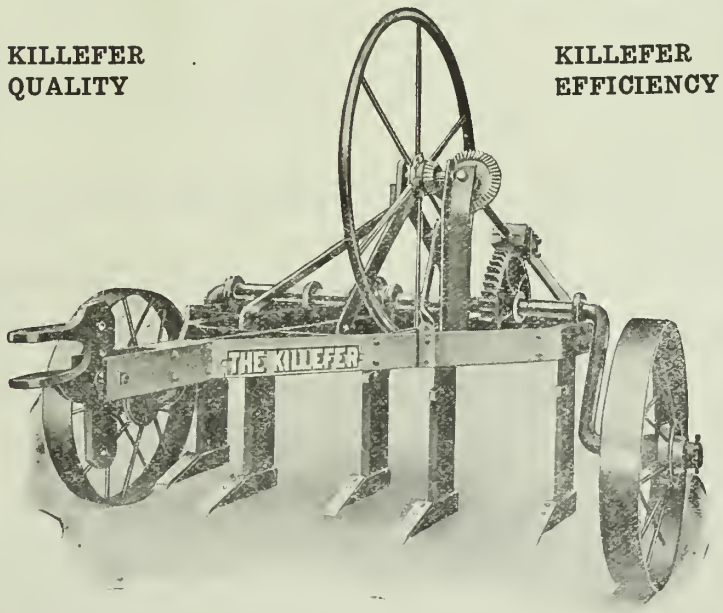
Using single descriptive words, the executive work for fruit growing should be "business" and the Uni- versity work for the industry should be "academic." The state depart- ment should be administered by a man of experience and mastery in growing and handling fruit—an up- standing, broad-visioned, progressive fruit man (and you can take the word "progressive" in a political sense or leave it, as you see fit). The mix-up of business and academic things in the office of State Commis- sioner of Horticulture has continued long enough. The laws favor it, but that is so much the worse for the laws; they should be expurgated. So far as we now remember the state has never had an executive horticul- tural officer who owned fruit trees enough to count—except in the dis- tinguished person of Ellwood Cooper. The direct connection of all the rest of them with the fruit business has never exceeded a dime's worth at a delicatessen store, figuratively speaking.

A Crying Need.—After all else has been said, the crowning, crying need of the fruit industries and of those engaged therein is a "big business" point of view. California fruit in- dustry is not shaking down the full of a wagon-box to peddle in an ad- jacent town and yet that is the dream of many direct-trade doctors. Cali- fornia fruit growing needs self-con- sciousness as a great industry. It has already done great things, largely as forced by circumstances. It needs to do greater things by carefully planning and concerted action. Every man in it needs to have his views enlarged and his re- lations to all others more clearly re- vealed. Then all will see better the needs to be filled and the opportuni- ties to be seized; and they lie all the way from thrifty small farming to State finance. No one can reveal all this to fruit growers nor endow them with it, but they can find it and pos- sess it for themselves by resolute, cordial and self-subjugating co-op- eration.

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Dynamite Before Tree Planting.

[Written for Pacific Rural Press.]

Twenty acres of navel oranges set a year ago last May and June on the place of A. G. Teashira near Lindsay are now the finest young orchard one will see in many miles of travel. The red soil had been sown to grain for an indefinite number of years with the usual result. No fertilizer or cover crop helped matters. Hardpan 1 to 6 inches thick and usually about 18 inches down underlies much of the piece. Five cultivations per season and plenty of pump irrigation are partly responsible for the even thrifty growth and beautiful color of the trees.

There is also another reason—one that may best be applied very soon now before the ground is water-soaked. Every hole was blasted with dynamite whether or not there was any hardpan. Holes were bored three feet deep with soil augers, an entire stick of 25 per cent dynamite was fused and tamped in tight with damp dirt, using a broomstick. About two rows across 10 acres were set at once, then the fuses were lit as fast as a man could walk. Water was run down the rows to settle the dirt, then the whole piece was plowed about eight inches deep, the field restaked, holes 18 inches in diameter were dug where previously blasted, balled trees were defoliated and set with the bud on the windward side, to resist the wind without breaking off. They were watered by furrows as soon as set, were not pruned until this spring when they were just touched up.

Prune Land Blasted in Autumn.—Forty-five acres of French prunes in unirrigated heavy sediment soil with adobe-like subsoil were set by W. B. Depew in Sonoma county after blasting every hole in the autumn. He says, "The ground was plowed before blasting for the trees, and the blasting should be done before the winter rains. This will insure a thorough soaking and settlement of the soil. I used one whole stick of 40 per cent dynamite to each tree and set it 3½ feet below the surface. A 1½-inch auger with the lips taken off, was used for making the holes. The cost for dynamite, fuses, and caps was 16 cents per tree; putting caps and fuses into the dynamite sticks, boring holes and shooting the charges cost 4 cents per tree, making a total cost for dynamiting of 20 cents per tree. I lost only 19 trees the first year from the 45 acres." Forty per cent dynamite would pack the soil into worse shape than ever if used while the soil is wet.

Peaches.—On a steep unirrigated red granite hillside in Placer county, C. P. Huestis cleared the land in the fall, laid it out without plowing, dynamited two feet deep with a stick of 40 per cent "powder" which loosened the soil 3½ feet deep and 5 feet in diameter as a rule. He tried 25 per cent strength here but found it not so good in this soil. Mayflower peaches and other shipping fruits were set after Christmas and in January. Foggy weather prevented their drying out until growth started. Had the dynamite shot out large undrainable basins in a hard subsoil, it would have been worse than useless. The trees would do well for a year or two and then would sicken. So it is well before blasting a whole piece to excavate one or two holes entirely to see what conditions exist.

OLD BARK FROM VINES.

Shaggy bark on old vines provides an ideal wintering place for spores of mildew and other diseases besides the insects that get shelter there from sprays. F. H. Wilson of Tulare county has his old Emperors peeled during winter so Bordeaux mixture may be sprayed on them effectively in early March as the first step in controlling mildew. An iron with one chisel end and a scraper hook on the other is used to loosen the bark. Young vines strip easily but old ones get "hide bound."

MANURE FOR MOTTLE LEAF.

That barnyard manure persistently applied cures mottle leaf of oranges is the belief of G. K. Hostetter of Lindsay. During each of the past two or three winters, a gravelly acre of mottled trees in a corner of the orchard has received several inches of manure and they now look 100 per cent improved. He notes that most if not all of the mottle leaf in that district is on streaks of sand or gravel where creeks have run in the years before. This sort of soil lacks the necessary humus and nitrogen supplied by farm manure.

FROSTED CORN IN THE SILO.

To the Editor: I noticed a question in a recent issue re frozen corn for silage. I have put up badly frosted Indian corn (yellow dent) with good results by chopping in ½ inch lengths and turning a hose stream into the blower as much as the air blast will elevate with the corn without clogging in 10 inch blow pipe.

Dixon. Wm. Curtis Clark.

The first show of the Murray Township Center of the Alameda County Farm Bureau held at Livermore last week was successful to such a degree that the exhibition may become an annual event.

Bartlett Pear

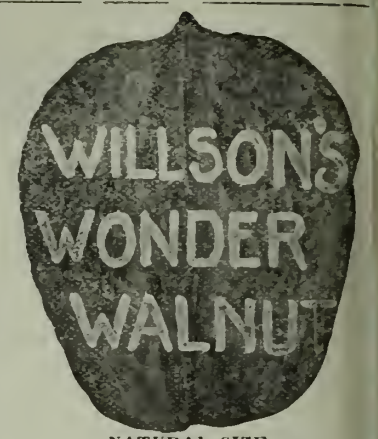
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More About Bean Weevils.

What can you do for a pest which grows itself into a green bean and then comes out to take a shot at a dry bean after harvesting?

To the Editor: When I first wrote to you asking how to keep my garden beans from being destroyed by weevils you answered that heating the beans in an oven in which the thermometer showed from 125 to 150 degrees Fahr. It seemed to me that it would be too much trouble to bake my beans before storing and so I waited for fuller discussion of the subject. Soon after you recommended carbon bisulphid. I tried that and put the beans away. Looking at them the other day I find that the bisulphid did not kill the pests and now I have to throw the beans away. It seems to me that in parts of the State where great crops of beans are raised they must have some better way to keep them free from weevils.—Reader, Mountain View.

[We have given during the last two months about all that is known about treating beans with heat and carbon bisulphid. We have never heard that the weevil did wide injury in parts of the state where the great commercial crops are grown. It may be that we are ignorant on that point, or that there are not weevils enough present to largely injure those great crops. We are willing to learn on that subject.

It may be well to state the performance of the bean weevil as described by the entomologists. Here is one statement:

"Of the insect pests which attack the beans, none is as destructive as the bean weevil. The female adult is a small brown beetle which deposits her eggs while the beans are in the pods. She gnaws a narrow slit through that point of the pod where the two surfaces join and then pushes her long ovipositor through this slit and deposits her eggs in the interior of the pod. This is done when the pods are yet green. The eggs hatch in from seven to fifteen days and the worms feed on the tender beans. After three or four weeks, they pupate just under the skins of the beans. These pupae remain in the beans till after the crop is stored, when they emerge as beetles ready to deposit eggs for another brood. The latter brood is able to develop in dried beans. The only remedy is to treat the beans as soon as they are threshed. The most common, as well as the simplest remedy, is to place them in a baking pan and set them in a hot oven for ten minutes. This destroys the tiny larvae without injuring the beans."

Thus it appears that though the first brood of weevils grows in the green bean in the pod, the second brood develops and grows in the dry beans—therefore the beans should be gathered as soon as dry enough and immediately treated for weevils so that there may be no second brood to attack the beans after they are put in storage — as stated by Mr. Parker on page 294 of our issue of September 25. In view of what our correspondent says of bisulphid in connection with the statement of G. C. A. on page 350 of the Rural of October 9, there seems really to be doubt whether the vapor can reach the larvae or pupae under the skin of the bean when taken from the garden or field. There should be some careful experimentation on that point. There is no doubt that it would kill all insects when they are out from this shelter, also all their progeny, because a dry bean cannot close them in tightly as a growing bean does.

It strikes us that Mr. Parker is right in the recourse which he mentions in his letter in the issue of September 25, viz.: to rig a heater so that beans go into it from the thresher or cleaner and thus get their immunity heat bath before going into bins or sacks. The whole subject is of continued interest. At the south, where they are so handy with hydrocyanic fumigation, the trial of their materials and machinery on beans as soon as harvested is obviously suggested for experiment if not already worked out beyond our knowledge.—Editors.]

Ralph Weaver is the winner of the potato growing contest at the San Jose High School.

IRISES

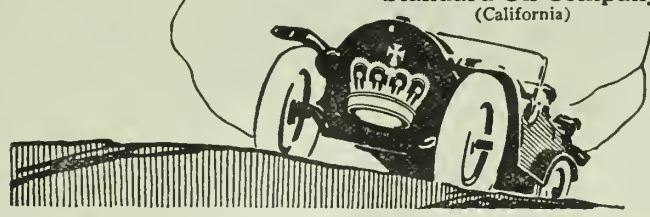
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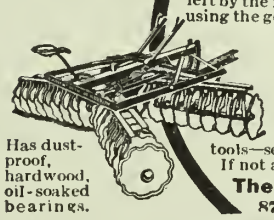
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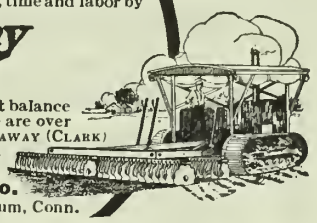
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Mechanical Power on the Farm.

[Written for Pacific Rural Press.]

PREPARE FOR RUSH PLOWING AND SEEDING.

For winter sown grain, there is a tremendous rush after the first rains, to plow and work down the soil before it gets too wet to handle. The faster this is done, the earlier the grain may be sowed and the less chance that the sowing will have to be delayed on account of wetness. Time at this stage of the game is worth several times the same amount later on. We have seen many fields sown too late, immature when moisture got scarce in the spring, kernels weazened or absent, and the work as well as the rent of the land practically lost.

Many grain farmers realize the extra money made by keeping ahead of the weather. They have tractors ready to put to work at the first opportunity, and are prepared to keep them working, night and day. Men are engaged to run the engine in two or three shifts per 24 hours, engines and implements are overhauled and oiled up before the rains begin.

Have Repair Parts Ready.—Extra parts are ordered so that no delay will occur in case of breakdowns except the time necessary to substitute parts. With $500 to $5000 invested in a tractor, the interest charge at 6 per cent equals $30 to $300, or 10 cents to $1 a day for every working day of the year. If the machine is not kept going, that is lost. One or two men on a plowing outfit cost $1.50 to $5 per day. Three shifts cost $4.50 to $15 per day. If the outfit breaks down in ever so small a piece and must be stopped until the new piece arrives from the factory or agency, interest and labor costs must go on. If labor is laid off at such idle periods new men must be obtained when work begins again. New men may be inexperienced if obtainable, while the time and expense required getting them may cost more than the wages would have amounted to. Keeping a good supply of repair parts is a most profitable kind of insurance against delay at a critical time.

SEEING NEIGHBORS' METHODS.

In an automobile that had already run 120,000 miles, a man with a crippled leg took us through the vineyards of Fresno county to see the results of various systems of pruning, cultivation, etc. We stopped here and there to look more closely at vines where large or small crops were laid out on the trays. Where picking had not begun, we could see how the fruit was set, how much had sunburned, how much had mildewed, and how much had failed to set thickly with full-sized berries. We talked with half a dozen vineyardists in half a day over a territory many miles in extent. Practically all farmers are glad to exchange ideas and to show the results of their methods. We commend this practice to all of our readers. Half a day's use of an automobile may revolutionize the methods on a profitless piece of ground, and might even pay for the car in increase of crop obtained the following year.

REDUCING TIRE EXPENSE.

[By W. D. Martin, San Francisco, in Pacific Service Magazine.]

Without exaggeration it may be stated that 75 per cent of tire repairs are made necessary by a want of a little thought, and by carelessness. Competition in the trade has been the means of making tire manufacturers use the greatest care possible in the manufacture. Each stage of the process is carefully inspected previous to proceeding further. Provided the proper care is taken of them, the number of tires not running their mileage is very small.

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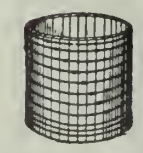
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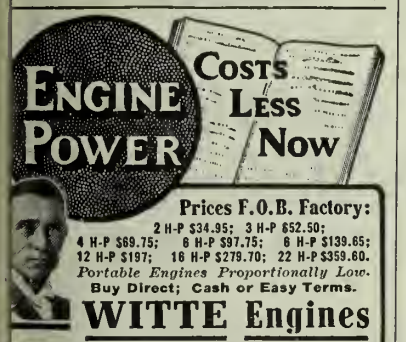
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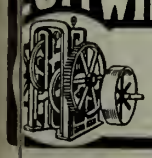
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ness under load. When not sufficiently inflated it causes violent bending at the side walls. Particularly is this the case when the tire comes in contact with any hard object on the road. This bending action causes a great strain on the fabric, and eventually the carcase breaks on both sides, above the bead. Too much cannot be said of the evil effects of soft riding, and not until drivers and garage superintendents absorb this fact will tire expense diminish.

After the fabric is so weakened blowouts quickly occur; then follow the usual growlings and imprecations on the tire-makers. It is also the chief cause of rim-cutting, causing the side wall at the point where it meets the bead to come in contact with the upper part of the rim.

Naturally a perfectly inflated tire does not expose so much of its surface to the road as a soft one, and many objects that would otherwise penetrate the tread will be deflected. No one can avoid bruises and cuts altogether, but by using a little care they can be reduced to a minimum. A hard tire will absorb the shock of a bruise. A great many of those mysterious blowouts that occur are the outcome of a bruise. Every man should carry a reliable pressure gauge. You cannot tell the amount of air in the tire by kicking it or by the look of it.

Regular Examination. — Every driver should examine his tires each night and if any surface cuts that reach through to the fabric are apparent they should be repaired without delay. To allow a tire to run when the tread is cut or chipped is disastrous. Dirt works its way between the tread and fabric, and in wet weather moisture enters, causing the fabric of the casing to rot and disintegrate. To repair a slight cut is a matter of only a few cents and is the means of saving the tire from utter ruin. The same applies to sand blisters. They should be opened at once and vulcanized, or the tread will loosen up all round.

Tires Ruined by Brakes.—More careful application of the brakes is needed. Quite a number of tires are ruined in this manner and only a very small percentage of the mileage has been obtained from them. This is a very bad form of abuse. Use the throttle more.

Taking corners at an acute angle and at high speed may be very spectacular and a fine exhibition of skillful driving, but it is exceedingly ruinous to the tires. So also is quick stopping and starting.

The mole ditcher demonstration at the Holt farm center on the islands near Stockton was a success in spite of the fact that trouble was experienced in getting enough power to pull the plow. Many of the farmers present expressed their desire to try the mole ditcher in establishing their irrigation and drainage system.

A report, prepared by the Division of Road Economics of the Office of Public Roads of this Department, gives data for each State with reference to the 1,666,984 automobiles, 44,355 motor trucks, 152.945 motor cycles, and 1,812 cars for hire, licensed in 1914, the number of operators' licenses, and the revenues. The total fines amounted to $101,364, and the gross registration revenues to $12,270,035.78.



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The G-E electric motor has freed the modern farmer from the shackles of drudgery and made him the most independent man on earth. He is no longer "bound to the land" by daily chores that occupy all his time to the exclusion of other interests. If YOU use

G-E ELECTRIC MOTORS FOR RANCH AND FARM

you can do your chores in a small fraction of the time they now take by hand. Costs are low, too.

For less than half the cost of an extra "hand" you can have your cows milked, your cream separated and the real work of all your other chores done electrically.

G-E motors will drive threshing machines, feed cutters, hay hoists, corn shellers, grindstones and all dairy, household or farm repair shop machinery.

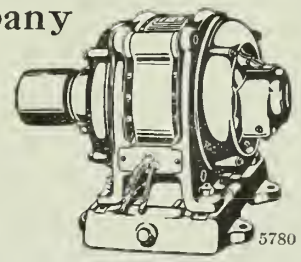
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Address nearest office.


5780

Little Stories of Success

No. 9

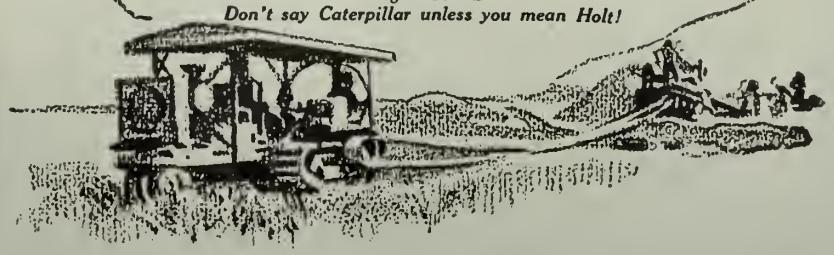
Mr. Fred Rollins of Chico, who bought a Caterpillar "60" in March, 1914 — and incidentally cleaned up $1700 the first month he owned it, plowing night and day for his neighbors — dropped in the other day to tell us his story of success.

Much of Mr. Rollins' work with the Caterpillar has been stationary work, and for this he says the Caterpillar has them all beat. In the rice fields, where a separator sinks in mud up to the sills, Mr. Rollins can go with the Caterpillar, and be ready to run right away without stopping to build up any foundation or blocking for the tractor. He threshed a rice crop for one neighbor, where a short time before when this same crop was harvested, the hinders had to be pulled through the fields on sleds.

Mr. Rollins is convinced that the right motto in buying a tractor is "Quality First." What's *your* problem? Write us.

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General Agricultural Review.

CITRUS AND SEMI-TROPICAL.

Shippers in the Porterville section have been notified that the Federal standard of maturity, 8 to 1, will be rigidly enforced this year.

Dyer B. Holmes of New York City recently purchased 440 acres north of Indio in the Coachella Valley, which he will set out to dates.

According to the report of the Orange County Fruit Exchange, the exchange returns for the season ending Aug. 31 were $1,415,798.27.

The Placentia Orange Association of Orange county has mailed out checks to its 46 members for $81,658 for Valencias shipped during August.

The University of California has purchased 465 acres of land at Riverside for the new citrus experimental station and school of tropical agriculture.

Butte county orange packers are busily engaged preparing for the coming season; new machinery and equipment are being installed at some of the packing houses.

Florida citrus fruit growers have started a campaign for a Federal appropriation of $2,000,000 to aid in stamping out citrus canker which is causing immeasurable damage in Florida.

The University of California has just distributed 1000 date palm seedlings to Imperial Valley growers, from its stock of 2500 young trees growing at its experimental farm at Hiloland.

The College Heights Orange Growers' Association of Claremont, in their annual report, show that their organization realized the highest average of any association in the San Antonio Fruit Exchange.

Riverside shipped a couple of cars of Valencias last week and still has two or three more cars to ship. Eight cars of lemons were shipped, but it does not look as though the season's total of lemons would reach the expected 500-car mark.

E. K. Carnes, superintendent of the orange and olive groves of the Natomas Consolidated, has been chosen as the man to go to Washington in behalf of the Butte county and Fairoaks orange growers and protest against the 8 to 1 standard of maturity.

At the recent hearing of the State Commission on Rural Credits and Agricultural Finances, Kenneth McRae, an orange grower of Rialto, urged that steps be taken to centralize existing citrus fruit auctions into two great central auctions, one at New York and the other at Los Angeles, with sales on a strictly cash basis.

At the recent meeting of the Queen Colony Fruit exchange of Corona, the following officers were elected: President, Frank Scoville; vice-president, F. H. Roberts; treasurer, First National Bank; and secretary-manager, Frank Harlow, Jr. The exchange handled about 90 per cent of the fruit grown in the colony, and during the season shipped out 1437 cars.

DECIDUOUS FRUITS.

The Fourth Annual Yucaipa Apple Show will be held Nov. 4, 5, and 6 under the auspices of the Yucaipa Apple Association.

The liner Vestris sailed from New York on Oct. 17 for Brazil and Argentina, with 2000 tons of apples and pears from California and Oregon.

The Central California Canneries and the California Fruit Canners' Association of Visalia are shipping about two cars daily of canned fruit each, middle western houses being the greatest buyers.

Bartlett pears from the Chicago Park section of Nevada county broke all previous records for price received during the season just closed, as high as $4.00 a box on the Boston market having been paid.

It is expected that about 603 acres will be added to those already planted to deciduous fruits in the Beaumont section next season. The Beaumont Fruit Growers' Association, therefore, plan to enlarge their packing house in order to meet next season's demands.

GRAPES AND SMALL FRUITS.

The grape shipping season in Yuba City is about concluded; from all reports, the season has been an excellent one.

The Dinuba section of Tulare county expects to send out 200 cars of Emperor grapes packed in drums within the next two weeks.

It has been officially announced that the Associated Raisin Company, as a company, will not take any part in organizing the wine growers into a protective association, though it strongly urges the growers to take that step.

W. M. Smith of Biggs is shipping choice Tokays from his ranch; he intends to ship in all eight carloads.

To date, Oct. 18, Lodi has shipped 2100 cars of grapes East; and there is every indication that 300 or 400 more will leave if the fall rains fail to materialize.

OLIVES AND NUTS.

The Santa Barbara walnut crop is proving to be larger than anticipated.

It is expected that the olive crop of Oroville will be ready to harvest within three weeks.

The Goleta walnut house is packing 36,000 one-pound packages of fancy walnuts each day.

The Porterville cannery started on Manzanilla olives on Oct. 18; it is expected that the season's pack will amount to 150 tons.

The First Annual Convention of the Western Walnut Association will be held at the Imperial Hotel, Portland, Oregon, Nov. 3 and 4.

A consignment of 6600 olive trees and 225 orange trees has recently been received for planting on the Simomns tract at Palermo, the property of San Francisco capitalists.

The California Almond Association of Oakdale recently shipped a car of almonds weighing 57,000 pounds, the largest car of almonds ever shipped from Oakdale; its destination was the sulphuring plant at Lodi.

At a recent meeting of the Fair Oaks Fruit Company, it was decided

StandardBooks on California Agriculture

California Fruits and How to Grow Them. Wickson $3.00

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6 Horses will handle our 4-Disc Plow in dry adobe

By a system of weighting it works in hard ground where other plows fail to work. No need to wait for rain, making certain the ability to plow early, which is most important in these days of high prices.

The "Ground Hog" is the acknowledged plow sensation of 1915

THE LOWEST COST REAL SMALL TRACTOR PLOW

PLOW NOW—DON'T WAIT FOR RAIN—IT MAY COME TOO LATE.

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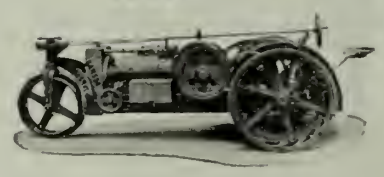


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over soft ground or hard—that stirs the soil's surface and breaks the clods without packing the ground.

It's a one piece, crucible steel casting—no parts to work loose or wear out. Simple and sturdy like the whole machine.

Samson Sleve-Grip Tractors are built in two sizes—4-5 and 8-10 horse drawbar pull. Write for booklet PR-1—it will interest you.



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Incorporated
Stockton, Calif.

COVER CROP

Vetch, Burr Clover and Yellow Sweet Clover

If you intend putting in a cover crop this Fall, write to us now for prices and samples.

We always have stocks of Fancy Alfalfa and all kinds of grasses and clovers and will submit samples and prices upon request.

VALLEY SEED COMPANY

506-508 Jay Street, Sacramento, Cal.

to pool the oil olive crop this fall, and each grower who participates in the pool must accept half of his pay in stock of the company, in order to increase the capital stock of the company from $50,000 to $100,000.

GRAIN AND FIELD CROPS.

Threshing of the Sutter county bean crop is in full blast; the crop is reported to be a good one.

Alton Emery is the winner of the 1915 bean growing contest of the agricultural club of the Salinas Union High School.

Sacramento river bean growers anticipate a very prosperous season this year, as both the crop and prices offered are good.

Harvesting has commenced on the largest rice district in Sutter county, District No. 70; and a good crop is expected by the growers.

Leonard Prisk of Grass Valley won first prize in the potato growing contest of the agricultural club of the Nevada County High School.

Rice harvesting is in full swing in the Richvale section of Butte county, and the yield is expected to be from 40 to 70 sacks to the acre.

Porterville is shipping between 30 and 40 carloads of baled alfalfa hay weekly to Mexican gulf ports and from there it is transported to Europe for the allies.

H. Chas. Elder of Fowler has been announced as the winner of the Tepary bean growing contest held by the Boys' Agricultural Club of the Fowler High School.

Dr. Washington Dodge and other San Francisco capitalists are preparing 7000 acres of recently acquired land northwest of Butte City for the planting of rice next season.

It has been reported that the Alameda Sugar Company will build a factory for sugar beets at Sacramento, provided they can get enough river land owners to plant sugar beets.

The Blevins & Mallon 3200-acre project in Colusa, claimed to be the largest single field of rice in California, was transferred on Oct. 9 to the Rice Land & Product Co. of San Francisco.

It is reported from the southern section of the State, and especially from San Luis Obispo southward along the Coast, that bean growers are harvesting a little better than a normal crop.

Authorities state that this season's outlook for rice in Merced county is as good as that of other San Joaquin Valley localities, in spite of the water shortage which came at a critical stage.

The Riverside Mill Co. of Reno recently purchased 1280 acres of land in Lassen county from the Honey Lake Land and Cattle Company, which they intend to put in grain.

W. E. Premo, manager of the Porterville Alfalfa Co., states that there is a growing demand for alfalfa; recently he has had inquiries for 3000 tons from Miller & Lux and others.

Potato growers of the Coast section of Sonoma county are getting together to ask the county supervisors for an appropriation to help stamp out the tuber moth which has made its appearance in a small area of the growing section.

A recent commerce report from Leeds, England, states that owing to war conditions, difficulties have arisen in securing the supplies of canned tomatoes usually obtained from Italy; and of late large quantities of these American goods have been noticed in the Leeds grocery stores.

MISCELLANEOUS.

An irrigation district, comprising 15,000 acres of foothill citrus lands from Exeter to Strathmore, has been formed, known as the Lindsay-Strathmore Irrigation District; and it was voted to spend $1,600,000 under the terms of the Wright act.

The National Flower Show will be held in the Palace of Horticulture at the Panama-Pacific Exposition from Oct. 21 to Oct. 26.

At a recent meeting of the Colfax unit of the Placer County Farm Bureau, it was decided to purchase supplies for the members in carload lots.

Work has begun by the Fresno County Chamber of Commerce to urge the University of California to establish the experimental farm at Kearney Park.

Exterminate Squirrels

GOPHERS,
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RATS, ROOT APHIS, ETC.



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Carbon Bisulphide
It is absolutely effective, and leaves no injurious effect if inhaled while handling.
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Buying a Tractor



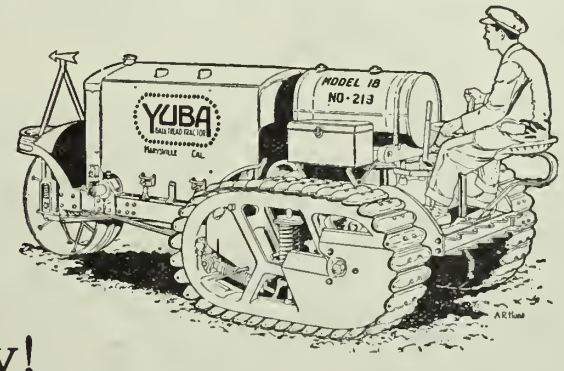
Did you ever stop to think that the development of the tractor has paralleled the development of the timepiece?

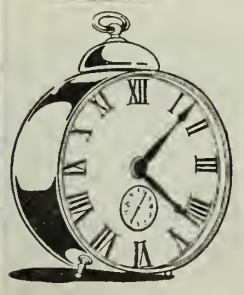
First came the sun-dial. It was cheap, but useless in rainy weather.

Then came the hour-glass. It needed constant attention to give results.

The alarm-clock was another step. It is big and cumbersome, lasts only a short time, and translates power into noise.

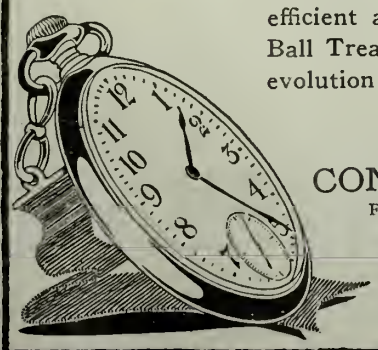






Now!

If you really wanted a first-class timekeeper you would buy an eighteen-jewel watch, compact and reliable. This is the kind of tractor the Yuba is. With eighteen sets of Hyatt roller bearings, instead of eighteen jewels — compact, reliable, efficient and economical, the Yuba Ball Tread is the latest step in the evolution of the tractor.



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CALIFORNIA

THE YUBA BALL TREAD TRACTOR

THE YUBA CONSTRUCTION CO.
Department A 12
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Gentlemen:
Kindly send me a copy of your booklet "The Yuba Ball Tread Tractor."

Name .....
P. O. Box .....
Town .....
State .....
Size of Farm .....acres.

CHECK MAIN CROP RAISED

Fruit	Rice .....
Grapes	Alfalfa .....
Grain	Hops .....
Hay	.....

California's Opportunity for Dairymen.

[Written for Pacific Rural Press.]

THE PERSONAL ELEMENT IN CLEAN MILK.

Very often we see or hear of a dairyman who has spent several thousand dollars in expensive dairy buildings and equipment and finds that he has a "show place.' In these places every precaution is taken to provide sanitation, and the expense seems of minor importance. When we step into the barn it seems more like a rich man's home than a cow stable; and we think of the pleasure the owner will get out of such surroundings.

We quite well remember the enthusiasm which was stirred up in our first visit to such an establishment, and it was a hobby with us to tell of that dairy for months afterward to all acquaintances. Imagine then, our disappointment when on another visit we saw the following incident. We had visited the milk room first, in which was located the glass-enclosed cooler, the sanitary bottler, sterilizer, etc., and then sauntered out to the stable where milking was in progress. To safeguard against unclean milking the owner had installed milking machines and the freshly cleaned cows and white-suited attendants aroused our admiration. The concrete floor had been religiously washed before the cows were stanchioned, but by this time the floor was spotted with fresh droppings. The attendant was enjoying a conversation with another milker instead of watching his machines, apparently satisfied that the machines knew their business.

As we roamed around alone, what was our surprise to find one cow on which but three teat cups were working, the other having fallen off into a pile of fresh droppings, from whence it had done a fairly neat job of floor-cleaning, depositing its load into the pail containing the milk. We at once notified the milker and then the owner, who remarked, "That probably accounts for the kicks we've been having about our milk recently. Seems like there's always a leak somewhere, although I've spent money freely to protect against every loop-hole.

Now this man was well meaning. He took pride in his dairy, but after all he had forgotten the most essential point in pure milk production, that of individual cleanliness. His milking machine was all right and would have served its purpose well had it been handled by an operator with regard for cleanliness. His disregard, however, reduced the expensive plant to a far lower level than the neighboring dairy which lacked expensive equipment but which was handled by a naturally clean dairyman.

There is no doubt but that the modern dairy barn and equipment are here to stay because of their ability to aid the naturally clean dairyman in both sanitary and economical operation. But we should never forget that the personal element is of far greater importance than any other single factor. This applies to the butter fat dairyman in the same manner and the surplus of second quality butter is directly attributable to lack of care rather than lack of suitable buildings or equipment.

Pure Bred Horses on Small Farms.

[Written for Pacific Rural Press.]

For two years this journal has endeavored to clarify the draft horse situation in the West by keeping its readers in constant touch with the more important events looking toward improvement in horse breeding.

A large portion of this work, in fact we might almost say all of the progress which has been made during this time, has come through the efforts of the California Draft Horse Breeders' Association.

With the recent activities in draft horse circles at the Exposition there has been brought to light much of interest in this respect and at this time sufficient information has been secured to outline a program which is, we believe, entirely practicable and constructive, for California farmers to follow.

The Breeder.—Without exception the Eastern horsemen who were visitors at the Exposition emphasized the importance of our future breeding being done by the small, rather than the large breeder.

These conclusions are based on experience with all breeds in all parts of the world. Europe has furnished the best evidence of the desirability of the small breeder, the size and character of their farms demanding small studs of farm-worked animals. The quality of animals, raised in this manner, needs no comment. America's present high standards have been the outgrowth of foundations secured in foreign lands.

This continual importation of foreign-bred animals could have but one result; the distribution of many inferior animals, but also the establishment of studs as good as the best in the world.

Until the beginning of the present European war, the extent of America's horse breeding industry was not generally appreciated, but investigation shows that we have ample purebreds of all the breeds to carry on business without further importations from Europe. And what is most important, these investigations show that the large percentage of the best American-bred horses come from the breeder with less than ten brood mares.

Individual Attention and Working.—The reason for this is the same as with European breeders; namely that the desirable heavy horse is the outcome of individual attention in breeding, feeding and selection, together with judicious work on the farm. The large breeder cannot meet these requirements, because he cannot give close enough attention to the work of breeding and feeding.

From these investigations both in Europe and in that portion of this country east of the Rocky Mountains, it seems that the West should take its lesson in horse breeding. Our studs should not be large ones, but should on the contrary be established on moderate-sized farms, where the brood mares do the farm work, and where the young can be well developed on the grasses and grains grown on the farm.

Of California feeds, Eastern breeders had much to say, commenting highly on them as well as upon our climatic advantages. Of these there has never been any question of desirability by horsemen.

Sound Foundation Stock.—In establishing small studs in the above manner our Eastern advisers bear down strong on quality of foundation stock. This may seem like timeworn advice, but the fact remains nevertheless that soundness and conformation in brood mares is as essential as proper mating and development.

Quite often has the breeder disregarded unsoundness in his breeding stock to later find himself overloaded with young stock for which no market could be found.

In all branches of livestock raising, familiarity with one's work is an all-essential factor. Small stud owners have an every-day acquaintance with each animal which is not possible with a large number,

California with its brood development and naturally favorable feeds and climate certainly offers a great field for purebred horse breeding if, as Eastern States and European experience seems to show, it is a matter of small studs. The State is fast approaching the era of smaller farmers and certainly there is no place where a greater amount of horsepower per acre can be profitably utilized than under our almost continuous summer conditions. This latter factor is an all-important one, statistics showing that the greater the horse power per acre the greater the efficiency, and this is more applicable here than in other climates.

More Farm Horses Needed.—It is on the assumption that more horse power per farm is needed, that one prominent speaker at a recent meeting took his text for the proper type to breed. His contention is that breeders must work toward a type sulted to their market and not toward preconceived ideals. He thought the future of the horse is on the farm because of its need there in larger numbers, and cautioned his hearers to select and breed types suited to farm work.

Cattle and sheep are likely to bloat on clover pasture if the clover is damp from the dew or a warm rain.

Manual
For Hog Men

"California Hog Book," by W. S. Guilford of this county, just from the press of the publishers, will fill a long-felt want in the agricultural literature of California. The book is practical in every sense, as practical as the author, who has so successfully combined his theoretical education with practical experience here in California. The new publication is more than a treatise on the various breeds of hogs—it is an ideal manual for the hog-raiser, who will run up against the same conditions as those solved in this book. The book deals entirely with California conditions, and takes up every branch of the hog industry. The hope of the author is that the small land owner, the ten, twenty and forty acre man, may be induced to increase.

"Glen county people are especially forunate in knowing Mr. Guilford personally, thereby knowing that the book he has written contains facts which have back of them experience and reliable information. The book is profusely illustrated with halftones and line-drawings." —Orland Register.

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Five herd boars in use and they are second to none on the coast. Our sows are of equal merit.

We have at present some 300 Berkshire and we know that we can supply what you want.

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We have several splendid grandsons of this now famous cow which we can deliver to you at prices which will suit the pocketbooks of every dairyman wishing to improve the quality of his herd, whether it be a grade or pure-bred herd. These bulls are sired by our herd bull, Prince Alcartra Korndyke and out of A. R. O. cows, and are the only living grandsons of a cow having a record of over 30,000 pounds of milk in a year. Such an opportunity for increasing production has never been offered DAIRYMEN AND BREEDERS in California, price and quality considered. Buy one of these bulls and solve your low production problem. Write

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WESTERN MEAT COMPANY,
Animal Food Dept., 704 Townsend St., San Francisco, Cal.

Mutton Sheep on Small Farms.

[Written for Pacific Rural Press.]

CARE PAYS WITH SHEEP ON PASTURE.

Though a majority of sheep raisers do not give their flocks enough attention to get anywhere near maximum results, Z. T. Blankenship of Visalia has proved to his own satisfaction that only when sheep are given personal care, do they pay well enough to depend on for income.

He figures that his highly-bred grade lambs are worth $2 each when dropped; that it doesn't pay to lose them, nor to miss having every ewe breed every season. Grade ewes for breeding sell at $8, rams for slightly more. Last September he had already sold all the February buck lambs at $8 each; and all of those dropped later at $5 each, except the ewes from which he expected to select breeders in October, for next season. The butcher lambs dressed 30 to 50 pounds at three months, the smaller sizes being preferred. He was importuned for more, but would not let them go.

Pure Bred Sires 25 Years.—The flock of about 50 ewes yeaned 80 lambs last spring from Feb. to June. They are the result of about 25 years' breeding to purebred sires of the mutton types. The foundation was Southdown bred to Shropshire bucks. Four years ago a Hampshire buck was used, as that is a somewhat larger breed and Mr. Blankenship likes the looks of their heads better. However, the Shropshires would be crossed in again if the Hampshire blood should become too predominant. But always purebred sires are used, the crossing being to get greater constitution. He wants to raise big block lambs to sell at an early age.

Characteristic of his care in selecting sires was a case in which he paid $18 for a young buck. The breeder had quoted that price for first-class bucks; but on arrival, this one proved underdeveloped and older than its size indicated.

He said to himself, "Am I going to lose my years of good breeding, by using that runt? No." He got another ram of the same age, sacrificing good breeding time for the sake of good type.

Alfalfa, Grass, and Weeds.—Forage is supplied by 50 acres of wild grass, mostly salt grass, fifteen acres of alfalfa, a little grain stubble, and a cornfield which the sheep clean up after hogs have harvested the corn. The salt grass makes a pasture good to use when other forage is unavailable, but its dust-collecting, tarry exudation makes it least desirable. It is good to mix in with tender weeds and other forage. The alfalfa is sub-irrigated only; but it produced three cuttings of hay before June when the 80 lambs with their mothers were turned onto it. In July, 25 cattle and 7 horses were added because the sheep did not keep it down. They have been seen to leave the alfalfa to eat cottonwood and willow leaves as they fall.

The small grain field was sown late and became very weedy, especially with sunflowers. Hogs were first turned in, then sheep, and in September the field was clean while the one across the fence was gorgeous with tall sunflowers, etc. It is best to turn them onto young weeds, for they do not like old tough ones so well.

The ewes were taken from the lambs and alfalfa in July; and it was noticed that the youngest of the lambs looked peaked for a week or so, then recovered. Those selected in October for addition to the breeding flock next year were turned into the cornfield.

Lambs are docked and the bucks castrated at two or three weeks old, since at that age they scarcely know it. Unless ewes are docked it is very hard to get them with lamb, which of course is where the profit lies. When lambs are abandoned by ewes or when they do not get enough milk, they are fed from a bottle and then from a trough. They are sheared about August just to get the dirt off and prevent foxtail running into their skins. Enough wool grows afterward to protect them from cold.

All sheep are corralled at night, especially in winter, on account of coyotes, and Mr. Blankenship will not have a dog on the place.

"I wouldn't advise anybody to go into sheep," says he, "unless they know how to care for them and will give personal attention. Such people ought to have 25 or 30 ewes if they have the feed, for it's a good proposition on the small farms.

More and Better Hogs in California.

[Written for Pacific Rural Press.]

CONVENIENT CHEAP FARROWING PENS.

It is the universal verdict of those who have succeeded in making money with purebred stock that it pays better than ordinary stock, but it costs more to get started with purebreds than with scrubs. For this reason, a great many good breeders have spent most of their money on foundation stock and but comparatively little on equipment.

In handling valuable brood sows and their litters it is very wise to shelter them so that none are lost due to discomfort of the mother, or to the rigors of the weather.

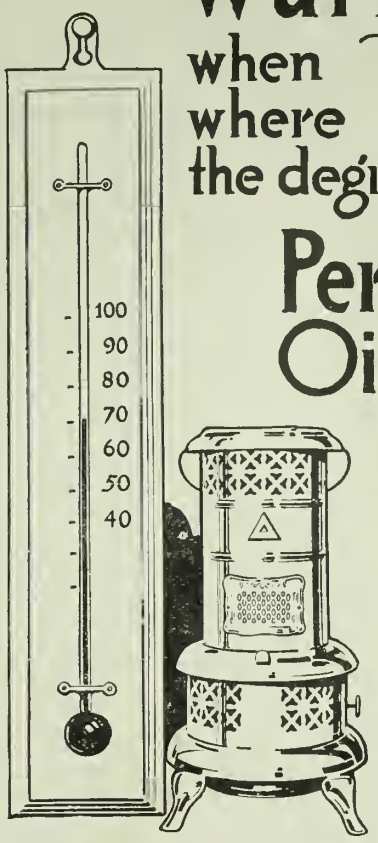
One of the simplest, cheapest, and most convenient farrowing outfits we have seen is that of Englefelt & Stewart of the Orland project. There are 15 farrowing pens in one long shed-roofed house built of inch boards. Those on the sides are horizontal and as nearly tight as possible; the roof is made with plenty of pitch so that it sheds water, and before rainy weather comes the cracks will be covered with 1x3 battens.

The backside is 4 feet high and the front about 6 feet so that a man can stand up once in awhile when his back gets tired at farrowing season.

Each pen is 6x6 feet with a 2x4 railing around the walls 6 inches above the floor and several inches away from the wall to protect the pigs from being laid upon. Partitions between the pens as well as the boards on the front side are 3 feet high. An open space 2 feet high along the entire front side is protected by hanging canvas fastened to two 1x6s which complete the front side at the top.

Each farrowing pen has a yard about 6x18 feet made of woven wire two feet wide supported by 1x12s around the bottom and 1x6s around the top of each yard.

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when where the degree you want it
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Standard Oil Company
(California)
San Francisco

FOR SALE Jersey Bulls Bull Calves

from cows on yearly test-making good-sired by our herd bulls **KING'S VALET (imported), VALET'S KING OF L, BORELLO'S GOLDEN LADDIE, GRACE'S FOX OF VENEDERA, and NORMA'S GERTIE SON OF L,** backed by production and winnings in the show rings.

They are of **FINANCIAL KING, GOLDEN LAD, GOLDEN FERN'S LAD, MARIGOLD and ST. LAMBERT** blood, the kind that improve type, cream production and persistency. One cow gave 49.5 lbs. fat in 11th month; her daughter gave average test of 8.38%; another gave 79.9 lbs. fat in one month, 238.9 lbs. fat in 134 days. A 2-year old gave 50.6 lbs. fat in one month—all under dairy conditions.

We have bulls from such cows, with correct type.

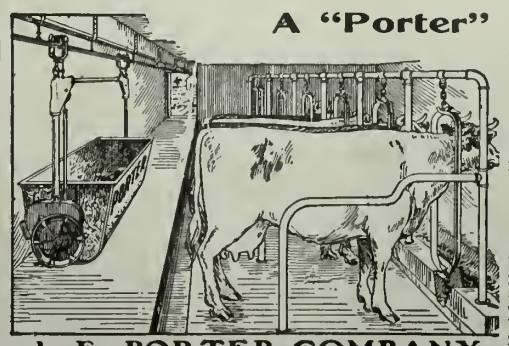
Dairyman's Opportunity

For $50, a yearling bull by **VALET'S KING OF L,** out of a good cow. $25 for bull calves under 30 days old. Tabulations, but no Registrations at this price.

Come and see them, send for catalogue, or write us your needs, and we will give you satisfaction and profit.

N. H. LOCKE CO., Lockeford, Cal.

A "Porter" Planned Barn



PORTER EQUIPMENT MAKES A BARN modern and up to date—one that takes care of the largest number of cows and other stock. A barn planned the Porter way saves labor, time and feed, and makes money for the farmer or dairyman every day in the year. It pays big profit on the investment.

The Porter steel stalls, cows stanchion, litter carriers, barn door hangers, hay carriers, and other fixtures are acknowledged leaders everywhere.

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THE PORTER BARN PLAN SERVICE is free, whether you expect to build now or later. Send for catalog of Perfect Barn Equipment.

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642 Fremont Street, OTTAWA, ILL.



LARROWE'S DRIED BEET PULP

IT is no longer necessary to buy high priced mill feeds for your dairy cows. A ration composed solely of ALFALFA AND LARROWE'S DRIED BEET PULP furnishes just the right proportions of protein and carbohydrates, together with sufficient bulk and an abundance of succulence. Dairy cows will do their best on this ration and yield 1 to 5 lbs. more milk per cow a day shortly after putting them on it.

A. W. Morris & Sons (breeders of the world's champion cow—Tilly Alcartra) say "Larrowe's Dried Beet Pulp increases the milk flow, strengthens and improves the physical condition of the cow."

McAllister & Son (well known and very successful Holstein-Friesian breeders) feed alfalfa and Larrowe's Dried Beet Pulp exclusively and say that they "know of no grain its equal and couldn't get along without dried beet pulp."

Thousands of feeders will tell you of the splendid results they are getting from this healthful, succulent vegetable feed. It is excellent for fattening; also for horses, hogs, sheep, etc.

LARROWE'S DRIED BEET PULP

—is clean, wholesome, appetizing; aids digestion; contains five times as much nutriment as silage, with as great or greater succulence—swelling to fully six times its original bulk when moistened. It is put up in convenient 100-lb. bags and may be had either plain or with molasses.



GO TO YOUR FEED DEALER TODAY and order a single 100 lb. sack of either the plain or molasses dried beet pulp. Ask for Larrowe's. Test it on one cow whose milk record you know—and watch results.

FREE! Our Booklet "Profitable Feeding." —containing valuable information on feeds and feeding. Should be in the hands of every dairyman. Write for a copy—to-day.

...s present high standards ...NG CO. ...been the outgrowth of founda... secured in foreign lands.

With the Live Stock Men.

DAIRYING.

M. J. Pedrotte of San Rafael has a herd of about 20 Brown Swiss cattle.

The Danish Creamery Co. of Fresno paid out $40,284 for cream delivered during September.

Some very choice Holstein cows are being kept on the Frenquelin ranch near Sonoma City.

During the month of September the Visalia Co-operative Creamery paid the dairymen $28,700 for their product.

S. Leverini of Sonoma county has rented the Sparks ranch near Dixon, where he will conduct a dairy on a large scale.

R. T. Kee of Bodega expects to bred registered Jerseys on quite an extensive scale. He now has 15 females and 4 bulls.

Dairymen of Kings county received $150,000 for their product delivered to the creameries during the month of September.

A large number of Ayrshire bulls are being used by the dairymen of Sonoma county. They find that they are excellent rangers.

The H. D. King ranch near Petaluma has been fortunate in securing heifer calves from their purebred Ayrshire cows this season.

For the six months that J. Bloom of Olema has been using the Sharples Milking Machine on his herd of 120 cows; good results are reported.

The Point Reyes Co-operative Creamery reports the cream receipts on the increase. Close to 1000 pounds of butter is now being made daily.

The Dairymen's Co-operative Creamery and the Good Luck Creamery of Tulare, paid out a total of over $57,000 to the dairymen during September.

The T. B. Roy ranch of San Geronimo receives 5 cents a pound over San Francisco quotations for extras for all the butter they make and ship to the city.

Frankenheimer Bros. are establishing a dairy of 120 cows on their ranch near Oakdale; and expect to develop one of the show places of the San Joaquin Valley.

J. C. Damann of Lancaster recently shipped two carloads of dairy stock to the Pat Griffith place near Porterville, on which place he will shortly establish a dairy.

A. S. Holcomb, manager of the Kenwood Farm, of Kenwood, reports the sale of 60 calves and heifers to Bob Kee of Bodega. Two-thirds of these were registered Jerseys.

According to R. S. Brown of Petaluma, Ayrshire cattle are the best adapted for Sonoma and Marin counties or other localities where the pastures are very rolling or steep.

J. A. Sagouspe of Fresno recently purchased the Ozment Ranch near Porterville; he has shipped in 24 head of dairy cattle and expects soon to have quite a herd of hogs.

Twenty-seven years ago, E. H. Cheney brought the first registered Holstein bull to Bodega; six years ago he bought his first registered cow. He is getting into the game in good shape.

C. E. Wertz of Ferndale has just purchased an 80-acre ranch near Turlock from A. Elliott of Modesto and Mrs. M. McConnell of Oakland. He will devote most of the acreage to dairying.

The Bodega Cow Testing Association has just completed a year's work. The cost per cow was 85 cents. The progressive dairymen are so well satisfied that arrangements have been made to continue another year.

Quite a nice herd of registered Holsteins is being kept on the Bobbs ranch at Fallon, Marin county. At present they have 15 females; this number will be increased until all the herd is registered. A son of Ragapple Korndyke heads the herd.

The Lebaron Estate Co. of Valley Ford, Marin county, is remodeling, repairing, and building additional buildings on their 200-acre ranch. Plans are laid to make this one of the most up-to-date and best paying dairies in that section. Registered Ayrshires will be kept; ten head have already been purchased.

The registered herd of Shorthorns (milking strain) established by John Lynch, lately deceased, some 40 years ago on his ranch near Petaluma, will be retained and the business carried on by the heirs. Those who have been accustomed to secure their bulls from this ranch in the past, may do so in the future. The place will be known as the John Lynch ranch. Mr. Lynch was one of the oldest setlers in Sonoma county. Blood from this herd may be found in practically every Durham herd in the State.

CATTLE AND SHEEP.

H. G. and S. J. Vincent of Woodville, Tulare county, recently shipped two cars of cows, 64 head, to Los Angeles.

The California Cattlemen's Protective Association will meet at the Palace Hotel, San Francisco, on Saturday, Oct. 23.

W. D. Reynolds of Santa Rosa, breeder of Red Polled cattle, retains all the bulls on his ranch to improve his range stock.

Rutherford & Daniels of Plumas county recently drove 150 head of beef cattle from their ranges to the stock yards at Quincy Junction.

Alonzo Swain of Burr valley, Tehama county, recently sold 1200 head of last spring's lambs to A. H. McInnis, stock buyer of Red Bluff.

A new sheep shed, 30x100 feet, with storage room for 40 tons of baled hay, is being built on the J. M. Jaminson ranch in Bennett Valley, Sonoma county.

B. B. Hinshaw of Petaluma sold 60 bucks to the sheep trade this season. The demand was so heavy that it took almost all his spring bucks, as well as older ones.

The John Lynch Ranch of Petaluma has just recently shipped to S. P. Vernon of Lake View, Ore., two very choice three and four months old Shorthorn bull calves.

Miller & Lux recently shipped 700 head of beef cattle to their beet pulp feeding corrals in the Alisal, Monterey county; the stock remain on the pulp about 90 days, are then shipped out, and replaced by fresh cattle.

HORSES AND SWINE.

Two sows and one boar were shipped by J. E. Hall of Sebastopol to Central America.

John Beach of Santa Rosa plans to start a small herd of registered Berkshires in the near future.

Arthur Brown was the winner in the hog growing contest held by the Dixon High School Agricultural Club.

Dairymen, Attention!

For sale at reasonable priee, a choiee lot of

Delta Grown Alfalfa Hay

W. A. STEWART,
Rio Vista, Calif.

Brighton Herd

Registered Berkshires

A few bred and unbred Gilts. Also a few fine young boars for sale.

Five Registered Shorthorn Bulls

The Brighton Herd is Headed by Red Victor 419456.

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Leading retailers everywhere sell RU-BER-OID, in attractive gray and Colored RU-BER-OID (Ka-lor-oid), in permanent Tile Red and Copper Green.



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B. E. Nixon of Yountville has recently purchased a young Duroc-Jersey boar from the River Bend Farm of Napa county.

J. L. Goatley of Petaluma figures good blooded hogs pay better than poor, scrubby ones. He keeps two registered Berkshire sows.

Shirley Drever is announced as the winner of the hog raising contest held under the auspices of the Woodland High School Agricultural Club.

It pays to have well bred hogs even if you send them to the pork barrel, states R. H. Trumbull of Novato, a buyer of registered hogs, but a seller of pork.

The Kenwood Farm, near Kenwood, recently secured a very fine Berkshire sow from the Berkshire view herd at the Exposition; the price paid was $100.

On Oct. 11, C. H. Thompson of Novato shipped to F. H. Suydam of Santa Cruz county a very choice service Berkshire boar; another boar goes to the R. H. Trumbull ranch nearby.

J. E. Hall of Sebastopol is planning to move from his present small quarters to larger ones in the same county, where he will have room to increase his purebred herd of Berkshires.

The semi-annual meeting of the Merced County Swine Breeders' Association was held at Gustine on Oct. 16, at which measures to wipe out cholera on the West Side ranches were considered.

The Santa Rosa breeders will be well represented at the Panama-Pacific Exposition in November. Eaton & Hughes will show 11 head of Hampshires and H. F. Brush 24 head of Berkshires.

Chas. Gatewood & Sons of Fresno, breeders of Poland-Chinas, report the sale of a boar each to L. F. Elwood of Piedra; S. D. England of Sanger; L. C. Elmore of Cutler; and G. E. Frame of Coalinga; also two gilts to J. A. Arthur of Clovis.

T. B. Purvine of Petaluma recently received from Hanks & Bishop, New London, Iowa, two four-months-old Proud Colonel blood gilts. They will be mated to a Cherry Chief; and from the combined bloods choice litters are expected.

It is reported that the Boys' Pig Club which was organized at Patterson some time ago is meeting with success. After the organization of the club, a feeding test for one hundred days was carried on, and the results were shown in twelve pens at Patterson on Oct. 9.

R. E. Wickham, proprietor of the Red Rock ranch, Glenn Ellen, has his feeding corrals so located that 50 head of hogs can be fed in 15 minutes. The feeding floors are centrally located and all yards open into them. The feed granary is in the center so the feed does not have to be carried.

MISCELLANEOUS.

E. H. Cheney of Bodega has just finished a 40x50 storm shed to protect his stock from winter weather.

On Nov. 29 and 30 Federal and State officials and others interested will convene at Chicago to discuss the foot and mouth disease problem.

At the annual meeting of the Glenn county Farm Bureau, by-laws were adopted for a Dairy Association and a Hog Raisers' Association.

A strange disease is reported to be killing off horses and cattle in Modoc county, and John P. Iverson, State veterinarian, has gone there to investigate.

Frank Meacham of Petaluma reports that live stock sales were never better than this year. Over 500 bucks were sold; and Red Polled bulls were shipped to all sections of the State.

The Brae Brook Collie Kennels of E. C. Rand took several blue ribbons at the recent Dog Show at San Jose. Two of the dogs, Brae Brook Basil and Brae Brook Best, seven months-old pups, won in the Brace Special in which all the different breeds of the show competed.

LIVESTOCK DIRECTORY.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

DAIRY CATTLE.

INCREASE QUANTITY AND IMPROVE QUALITY of your milk by using a **Guernsey Sire.** We can furnish choice imported or home-bred bulls from big record cows at attractive prices. **Imp. Itchen May King 25174,** the best living May Rose bull, heads the herd. See him and his calves at San Francisco Exposition. Come and see our Guernseys, or send for price list. **Edgemoor Farm,** Santee, California, Walter H. Dupee, Proprietor.

FOR SALE, JERSEY—Noble Peer of Sunnyside, sired by Peer of Fair Acres. Dam University Marigold, with official years' record 5563 pounds milk, 356 pounds butter. Fine individual. H. L. Washburn, White Road, San Jose, Cal.

REG. HOLSTEINS—We offer choice grandsons of King Segis, also grandsons of the world's record cow, Creamelle Vale; blood that increases the value of your herd. Write or call and see our herd. F. H. Stenzel, San Lorenzo, Cal.

FOR SALE—35 head fine grade Jerseys and Durhams, all milking but three. The pick of several years dairying. All in fine shape, giving 80 gals. per day. $75 per bad. P. E. Kibbe, Santa Paula, Cal.

REGISTERED HOLSTEIN COWS and heifers bred to Colantha Sir Pontiac Aaggie for sale. Also bull calf by him from a 24-lb. cow. K. W. Abbott, Milpitas, Cal.

HOLSTEIN BULLS—Purebred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

FOR SALE—Registered Holstein-Friesian bull calves, sired by sons of King Pontiac Artis; $80 to $300. E. A. Claussen, 1139 Devisadero St., San Francisco.

FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

SUNNYBROOK RANCH, Willits, Cal.—Breeders Registered Holstein stock. Young bulls for sale sired by Ruby Gem Cavary Lad. Prices reasonable.

AYRSHIRES—For sale, fine young bulls from Imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma, Cal.

TWO REGISTERED HOLSTEIN BULLS out of **A. R. O. dams.** Sired by **King Mead. Ready for service.** J. H. Harlan Co., Woodland, Cal.

REG. GUERNSEY BULLS for sale. **Grapewild Farm,** Mayhews, Sacramento county, Cal. A. B. Humphrey, Prop., P. O. Box P.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class, thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

REGISTERED HOLSTEIN BULLS—Grandsons of King of the Pontiacs. J. W. Benoit, Route C, Box 172, Modesto, Cal.

REGISTERED HOLSTEIN BULLS—Serviceable age. From finest strains. Panama-Pacific Dairy, Sutter Creek, Cal.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

WILLOWMOOR AYRSHIRES.—Great records; economy. 300 head in herd. J. W. Clise, Redmond, Washington.

HOLSTEIN-FRIESIAN CATTLE and Berkshire Hogs. H. B. Goecken, Breeder, Goecken Heights, Livermore, Cal.

BREEDER OF REGISTERED JERSEY CATTLE. Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

REG. JERSEYS—Herd established 1868. Young bulls from best cows. Ranch Dos Rios, R. 2, Modesto.

REGISTERED HOLSTEINS—A. W. MORRIS & SONS, Corn., Importers and Breeders, Woodland, Cal.

REGISTERED JERSEY BULLS from register of merit cows. D. F. Conant, R. 5, Modesto.

CREAM CUP HERD—Registered Hoisteins Pontiac bull calves. M. Holdridge, Modesto, Cal.

WILLOWWOOD JERSEY FARM—Breeder of registered Jerseys. C. G. McFarland, R. 2, Tulare.

PALENDALE HERD of Reg. Holsteins. Young bulls for sale. J. A. Pelanda, Salida, Cal.

SUNNYSIDE HERD—Registered Holstein cattle. R. F. Guerin, R. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

REGISTERED JERSEYS — Young bulls and bull calves. T. B. Purvine, Petaluma.

A. R. O. REGISTERED HOLSTEIN BULLS for sale. Millbrae Dairy, Millbrae, Cal.

BREEDERS OF REGISTERED HOLSTEIN CATTLE—McAlister & Son, Chino, Cal.

BREEDER of Registered Holstein Cattle. Ernest Otto McClure, R. 2, Modesto, Cal.

REGISTERED JERSEY BULL two years old. Gentle. O. J. Ames, Oakdale, Cal.

REGISTERED HOLSTEIN BULLS for sale. C. L. Morse, Route B, Modesto.

LINWOOD FARM—Registered Holsteins and Imported Guernseys. Santa Cruz, Cal.

BREEDERS OF HOLSTEIN-FRIESIAN CATTLE.. Dirk Dairy Farm. Lemoore, Cal.

REGISTERED HOLSTEIN BULLS for sale. Write Dr. Stetson, Napa, Cal.

REGISTERED HOLSTEINS—Golden West Herd. D. & H. Rowles, Modesto.

H. H. LOCKE CO., Lockeford, Cal.—Choice young Jersey bulls for sale.

PACKWOOD FARM HERD for Holsteins. W. F. Mitchell, Visalia, Cal.

HORSES AND MULES.

REGISTERED, PEDIGREED JACKS, JENNETS and Gaited Kentucky Saddle Horses. H. B. Thornberry, Box 679, Stockton, or Box 1117, Los Angeles, Cal.

REGISTERED JACKS—Range raised, guaranteed satisfactory breeders. Field Jacks a specialty. Also REGISTERED SHIRE COLTS. Will trade for young mules, horses, or land. James W. McCord, 508 Douty St., Hanford, Cal. Phone M471J.

REGISTERED PERCHERONS—Grand and Reserve Champion mare at California State Fair 1913-1914. H. G. Learned, Stockton, Cal.

REGISTERED SHIRES—Black Hawk Stock Farm. Importers and Breeders. Easton & Ward, Proprietors, Burlingame, Cal.

BEEF CATTLE.

FAIR OAKS RANCH, WILLITS, CAL.—Registered Shortborns, Villager and Avondale strain. Yearling bulls for sale

SIMON-NEWMAN CO., Breeders of registered Herefords. Newman, Cal.

HOPLAND STOCK FARM—Registered Short-horns. Prices on application. Hopland, Cal.

GEORGE WATTERSON.. Breeder registered Herefords. Bulls. Bishop, Cal.

HEREFORD BULLS—H. H. Gable, Diamond G. Ranch, Esparto, Cal.

SWINE.

BIG TYPE POLAND CHINAS—I have an extra good lot of strictly high-class young boars from three months to one year old that are fit to head any herd anywhere. Visitors say they are the best they ever saw. They have the large size, the good hams and shoulders, the strong, wide, arched backs, great length and depth of body, plenty of smoothness, mellowness and quality—in fact, they have two good ends and a good middle; are good lookers and money-makers. Their dams are either from Illinois, Iowa, or Missouri, or are from dams whose sire or dam are from these States. These boars are sired by **Iowa Wonder,** who will weigh over 1000 pounds in show condition. He is a son of **A WONDER,** the greatest Poland China boar living or dead. These young boars carry the stamp of their sire and will sire pigs that will please you. Satisfaction guaranteed in every particular. I am overstocked. I have boars galore. Will sell them at extremely low bargain prices. No females for sale at present. The book on THE HOG SUPREME—THE POLAND CHINA will be sent to you free for the asking. Yours for the BIG TYPE—the kind that grow faster and larger and have more and better pigs. GEO. A. SMITH, CORCORAN, CAL.

BILLIKEN HERD of pedigreed O. I. C. Swine; weaned pigs of both sexes for immediate shipment; pairs and trios mated, not akin. All from big type stock of extra heavy bone. Immunized against hog cholera, crated and shipped free. Write for descriptive circular and price list. C. B. Cunningham, Mills, Sacramento County, California.

O. I. C. SWINE—Poor health is the reason for this offer. Will sell my herd of pure-bred O. I. C. Swine at prices that will turn them quick. Pigs two to eight months old, either sex. Write me for special prices. Every hog registered. G. H. Duhois, Box 13, San Martin, Cal.

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RED ROCK RANCH, Glen Ellen, Cal.—Breeders of high-class Duroc Jersey hogs Our specialty registered pigs at weaning time. A registered mature boar for sale.

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REGISTERED DUROC-JERSEYS from choice Eastern sows. Two Fall boars and a fine lot of Spring pigs. S. S. Southworth, Napa, Cal.

POLAND CHINAS — Young stock; either sex. Write for pedigree. Reasonable prices. Edwd. A. Hall, Watsonville, Cal.

REGISTERED BERKSHIRES—Boar pigs, $10 each. Also aged boar, son of Double Premier. Extra fine. G. G. Wenger, Route 5, Modesto.

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REGISTERED DUROCS for sale. Cols and Model strain. Young stock, both sexes. Geo. T. Farmer, Hanford.

BERKSHIRES—Headed by Roadmaster 2nd, junior champion Iowa State Fair. My females were winners at Iowa, Wisconsin and Minnesota State Fairs. Farm at San Mateo. Address W. M. Caruthers, 218 Hearst Bldg., San Francisco.

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POLAND-CHINAS—Large type. The Browning Stock Farm. W. H. Browning, Woodland, Cal.

FINE REGISTERED BERKSHIRE PIGS—Write or call Greenwood Ranch, R. D., Brentwood, Cal.

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DUROC-JERSEYS—Registered boars and gilts. John Decker & Sons, Turlock.

REGISTERED POLAND-CHINA HOGS—J. W. Wakefield, Acampo.

REGISTERED DUROC-JERSEY SWINE—Las Pederas Ranch, El Cajon, Cal. M. S. Allen, Manager.

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FRANK MEACHAM, Petaluma, California.—Breeder Shropshire, Rambouillets, American Merinos, both sexes. Take electric car at Santa Rosa or Petaluma for Live Oak.

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CHAS. KIMBLE—Breeder and Importer of Rambouillets, Hanford, Cal.

BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers, Shropshires.

BREEDER OF MERINO SHEEP—Rams for sale. J. Bidegaray, Fresno, Cal.

MISCELLANEOUS.

BREEDER of Registered Holsteins and Poland China Swine. E. E. Freeman, R. 5, Modesto, Cal.

Cattle on Exhibit at Exposition.

[Written for Pacific Rural Press.]

Limited in extent by the latest quarantine proclamation which excludes cattle, hogs, and sheep from most of the States east of the Rocky Mountains, the cattle show at the Panama-Pacific Exposition, October 18th to November 1st, is sufficiently represented in all of the more important divisions to be worth while.

As this is written the judging has not been started, but the cattle are in the barns dressed for the ring in excellent show condition. It appears certain that in this matter of fitting, the present show is to set a standard for future California shows in many classes.

The dairy cattle divisions are led in numbers by the Jersey breed, there being 225 head of them on the grounds. This part of the show appears before the judging to be favored with keen competition. California breeders have turned out strong with the American type Jersey, while the Oregon and Washington breeders, who have by far the largest number of entries, are basing their all on the Island type.

California Guernsey breeders are putting up an excellent show, leading all other breeds in the number of entries from California farms. To us it appears that this show is bringing out the dairy type more than previous California shows have done.

Ayrshires stand out in a class of their own, the entries being far larger than the other breeds, considering the number of Ayrshire herds in the West. As this is the first real good chance Californians have had of viewing this breed in large numbers, the present show should do much toward advancing the breed in this State, particularly in our coast dairy sections. Their uniform and well-placed udders are freely commented on by all visitors.

While rich in show quality, the Holstein show is disappointing to lovers of that breed on account of its small numbers. With the exception of one small private herd and a few individuals shown by the University of California, this show is being made entirely by Oregon and Washington breeders; and, be it said in their favor, that they have brought animals entirely creditable to the occasion. Fear of the foot and mouth disease is said to be the reason for the small showing of California Holsteins.

The first showing of the Brown Swiss breed is being made with one small herd from the Northwest, and one herd of milking Shorthorns is on exhibit as representative of that breed. The Dutch Belted breed is represented by California breeders exclusively.

Beef Breeds.—With the beef breeds Shorthorns come first in numbers, largely from California, with one herd showing from Colorado and one from the Northwest.

Herefords come next in numbers, being largely out of State stock. Two full herds of Red Polled cattle are on the grounds, placing them in third place for numbers.

In the beef breeds California would undoubtedly be better represented had not the foot and mouth situation been so uncertain. As it is, the Eastern breeders were held out; and the quarantine proclamation was issued too late to allow some of the local breeders to participate.

SECOND CONSIGNMENT SALE A SUCCESS.

The second annual consignment sale of Holstein cattle held at Hanford last Friday and Saturday was pronounced a great success by J. W. McAllster, sales manager, who is quoted by the Hanford Journal as saying: "Prices here were as good as we secured at Sacramento, animals bringing prices commensurate with their individual worth. I am quite sure there will be another sale in Hanford next year, and there is considerable talk of two, as some of the breeders believe that Hanford is a better location for an auction than Sacramento.

"The total amount of sales were $48,350, or an average price of $300 per head for the entire collection of animals. The high price of Friday was brought by El Prado Mandel Wayne, a 10-months-old heifer calf, which was bought from C. C. Lester of Gilroy by J. P. McGillivray of Sacramento for $725.

"The second highest price paid Friday was brought by Sir Holland Gamp, the herd bull of Alex Whaley of Tulare, for which $700 was paid by the Tagus Ranch Company.

"George L. Fletcher, of southeast of Hanford, bought two bulls from C. C. Lester, Emperor Ichataaf Segis, for $170, and Emperor Spotfoot Segis, for $100.

"The crowd at the sale Saturday was not quite so large as the day before, owing to the fact that here were not so many spectators, but many buyers were present, and the bidding was lively all day, the sale being completed by 3 o'clock."

A barrel of water in the hay or grain field, and a pail to each horse at about ten o'clock on a hot day and again at about three o'clock is not only a kindness but a measure of safety for the horse.

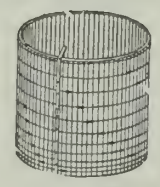
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Bull Pens, Cow Pens.
Several Hundred Feet I-Beam Track and Hangers and over 300 James Sanitary Steel Stalls with Galvanized Steel Mangers or Manger Divisions.



Cow Comfort

JAMES SANITARY BARN EQUIPMENT

received at P. P. I. E.

The Grand Prize

the highest possible award.

If you contemplate building a new dairy barn or remodeling the old one, send for the "JAMES WAY," Catalog B, and let us help you plan your barn so as to get the greatest convenience and the most for the money.

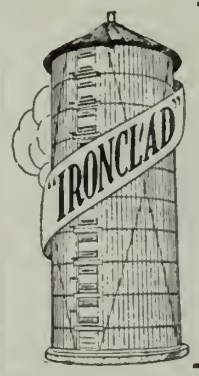
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Jacks and Jennets and Gaited Kentucky Saddle Horses

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Veterinary Queries and Replies.

[Answered by Dr. H. B. Wintringham, Petaluma, Cal.]

BLEEDS AFTER BREEDING.

To the Editor: I have a heifer which has never had a calf. She has been bred three times and each time had a bloody discharge a day or two afterward.—W. J. B., Thermal.

[This heifer probably has a growth in the genital canal. Only an examination can positively determine this. Have a competent veterinarian do this.]

PIGS SMUT-POISONED.

To the Editor: I have several young pigs that seem to lose the use of their hind quarter, seem to be weak across the back, try to get up and roll around. When they finally succeed in getting up go staggering off, and if excited roll over some more. Am feeding ground barley slop; barley has smut in it. Can that affect them? They seem to acquire the complaint at 6 to 8 weeks; have good appetites, but do not recover.—C. J. P., Hollister.

[This condition is due to poisoning from the smut on the barley. Pigs are very susceptible to forage poisoning of many kinds.]

YOHIMBIN DOSAGE.

To the Editor: In your issue of Sept. 25 you answered my query about a sow that wouldn't breed. I got the yohimbin tablets 1-12 gr. each and gave one three times per day as directed till I had given eight doses, when the sow died in convulsions. I called in a veterinarian who was working on her when she died. He says yohimbin is given to make a sow come in heat regularly; the yohimbin overexcited the organs and threw her into convulsions.—E. L., Ceres.

[If this pig died from the use of yohimbin it was due to individual idiosyncrasy as the doses accepted by E. Frohner for this drug for swine are up to 1-8 grain three times a day. Finlay Dunn also accepts the same dosage. The drug in your case was not given so much to excite sexual passion, as for its tonic effect on the genital organs.]

BONY GROWTH UNDER LIP.

To the Editor: I have a fine horse colt—will be two years old the coming spring—that has a growth inside his under lip, between lip and the gum. It is a soft, bony substance. Has been cut out twice but grows back again. Colt is in good condition and eats all right.—E. P. T., Santa Margarita.

[This is a benign cancerous growth which should stay removed if all its substance is taken out when operated on. After removal, it should be painted with tincture of iodine two or three times a day until healed.]

TEST FOR ABORTION.

To the Editor: I had my cows tested for abortion and all were OK. Two months later I fed them grape pomace and a week after that one of them aborted when 7 months along. She is now eight months along with calf. Did the seeds cause abortion?—H. B., Modesto.

[The Complement-Fixation Test is the only positive test for abortion in cattle. Other tests are most unsatisfactory. I do not think feeding grape pomace moderately induces abortion.]

PASSAGE OBSTRUCTED.

To the Editor: I have a valuable dog that is troubled with what appears to be chronic constipation. The obstruction seems to be located at the rectum. So far we have been able to relieve him. We use an enema of warm water and soap. He also manages to take it from himself.—H. S. E., Princeton.

[Give this dog 2 ozs. of castor oil. Follow this with one tablespoonful of hydrocarbon oil daily. This is a great reliever of chronic conditions of this kind.]

PERSISTENT NECK SCAB.

To the Editor: My horse has a black scab on the back of her neck. It seems to have a root. It came two or three weeks ago and I have not worked her the past week.—E. T., Greenfield.

[This is sitfast. Cut it out with a sharp knife and paint it with tincture of iodine daily until healed.]

PERSISTENT SORE ON DOE.

To the Editor: What can be done for a doe of mine? She has an open sore at the base of one ear, on the outside. It is about the size of a dollar. It commenced months ago, with a lump that stuck out about the shape of a thimble. This after a while fell off, and seemed to be healed. Only lately it has opened up, and I can't heal it. She eats as usual and seems well.—Subscriber, Sunnyvale.

[There is evidently a foreign substance in this sore which has never been removed. Examine carefully and remove any foreign material. Then paint the wound once daily with pure tincture of iodine until healed.]

Don't feed too much hay to your horse. Such feeding is an injury to the horse.

Hopland Shorthorns
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All stock registered. Bulls of highest quality. Young Sows and Boars of finest breeding and type. Prices on application.

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TAMWORTHS
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FOR THIS SEASON'S USE

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You use **Tanks** and **Pipe** all year round. Let us quote your prices on our **Remco Redwood Tanks** in all sizes and our **Remco Redwood Stave Pipe** in all diameters, 2 inches to 12 feet.

Tell us your requirements and we will quote you prices. Our factory is equipped for special orders as well as standard requirements.

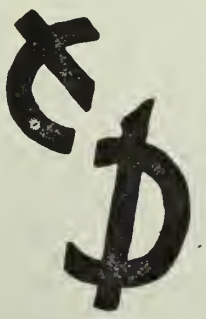
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ATTENTION, SHEEPMEN.

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Shropshires sired by rams imported by me from England in 1911.



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MICA AXLE GREASE
as you do other kinds. It's the ground mica that does it. Resists heat and wear — the grease lasts twice as long. No scored spindles. Dealers everywhere.
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Gold Medals at State Fair, 1914. Also Sweepstakes on sow; four firsts and four seconds at Fresno, 1915.
March and April boars and gilts for sale.
ELMER LAMB, CERES, CAL.

Farm Poultry for Profit.

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

MARKETING DRESSED OR ALIVE.

The farmer and small rancher is very often at a disadvantage when it comes to disposing of his surplus poultry, because of two things. He is either too far distant to ship the birds alive, at a profit, or he is at a loss to know how to prepare them for market and pack them when dressed.

If the shipment is to be made, it is always better to write to the consignee for particular instructions. If the instructions are complied with, it saves a lot of trouble and misunderstanding for all parties. All commission men like to get attractive shipments of produce; it nets better prices for the shipper and more commission for themselves. And the best commission men are always glad to give their patrons the benefit of their knowledge. Everybody should take the trouble to find one of the right class and stay with him.

For those who are too far away to ship birds alive and yet are not able to find out the needs of a market it is always safe to dry-pick all poultry, turkeys, ducks, and geese that are to be shipped any distance. Dry picking is a rather slow process, but it is absolutely the only process for birds that are to be shipped long distances or held any length of time. No market calls for fowls dressed by any of the scalding methods, no matter what distance they are shipped.

Stick Knife Into Brain.—It is always best to keep them on a twenty-four hour fast before killing; this insures an empty crop, less food in the passages, and prevents early decomposition. All markets in California want them undrawn.

All poultry should be killed by inserting a sharp-pointed knife into the mouth and by a twist of the wrist push the point into the brain at the top of the mouth. Birds killed in this way bleed freely and have no disfiguring marks on them. Wipe the mouth out after rinsing and commence to pick the bird at once. Leave a few feathers on the head, two or three primary wing feathers on turkeys and capons, but not on chickens.

Singeing with Live Coals.—To singe the hairs and little pin feathers is where the average person makes his first bad job in dressing, because he generally starts in wrong by trying to do it with a paper torch. Now, what you need is a small hot fire without blaze or smoke, just a few hot coals that are easy to get at. The fire is best where you can pass the fowl over it quickly; hold the head in one hand and the feet in the other. Have a helper to pass you the birds; and as you singe each, lay it down on a clean cloth. Quite a number of fowls can be singed over one small fire, but it must be red hot. Be careful not to break the skin.

Packing Dressed Poultry.—Wipe the body, head, feet, and legs first with a cloth, wet in hot water with baking soda or borax dissolved in it, then with a cold water cloth wrung out fairly dry. Lay on clean oat or wheat straw, or even a clean cloth until perfectly dry and cold, in some cool, clean, dark room away from flies. It will be best to pack before the carcass gets too rigid, as if you wait too long it will not be possible to place as many in a box. Have a good layer of clean straw in the bottom of the box and a clean sheet of paper. Put the head of each bird under one wing, draw up the legs over the breast, as more can be packed in the space that way. Place a clean sheet of paper between each layer of birds and see that the box is filled with something; if there are not sufficient fowls to fill make up with clean paper, put on a tight cover, nail the address of consignee, also your own address, in a conspicuous place and along with the shipment send your expectations of "good returns."

Don't forget that nearly all food products are sold, not so much according to food values, as they are to please the eye. Make your produce look attractive. If you don't, the commission agent must, and if he does it, you pay the price.

Ducks and geese should be dry-picked for shipment; but for local trade they can be made more attractive with less labor. They can be scalded and picked, then after singeing, plunge them into a pail of hot water, then into cold; this is termed "plumping." After that they may be left in cold water until the animal heat is out and then dried and sold.

Selling Alive.—When the birds are to be sold alive it is always better to put all of one kind, size, and color in each coop. These things, in themselves, don't seem much, but they all count in the price you get. Perhaps the man you consign to will never even take them from the coop, but sell them just as he receives them. Now the man that buys will pay according to the poorest specimen in the coop, as likely as not. It depends some on the condition of the market. If our stock strikes a market in competition with eastern shipments, the native stock has to look and feel very good to get a fair price. They ought not to have food for twenty-four hours before killing.

If you ship milk-fed poultry, always put on the crate in big letters "Milk fed." But it is best to look up a private market for such, even if it takes several days to do it. It pays in the long run, because while the public market likes good things, they don't like to pay good prices.

All coops must be fitted with water cans made fast to the coops. The express companies call for them; and also the limit of a coop must not exceed one hundred and fifty pounds; this includes poultry and coop. Any infringement of their rules, even if their agents pass the coops, exonerates the express company from liability.

During a recent visit to the Exposition, Assemblyman Knox Boude of Sebastopol, author of the "Imported Egg" bills passed at the last session of the State Legislature, called at this office. Mr. Boude reports a determination on the part of the poultrymen of Sonoma county to carry the question of the valldity of these bills to the court of last resort.

The old Red Bud Ranch near Cloverdale is to be sold by the heirs to settle up the estate.

Motorists! Cut Fuel Bills
Save 25% to 50% on Gasoline

by using "Gomor," the scientific lubricant. "Gomor" is poured into ordinary gasoline and thus introduced into the motor through the carburetor with the gas. At every explosion "Gomor" is sprayed on cylinder walls, pistons, valves, etc., thus positively eliminating carbon formations. It greatly lessens friction, makes gasoline vaporize quicker and motor run perfectly on very lean mixture. One quart of "Gomor" is sufficient to treat 80 gallons of gasoline. Thus, if your gas tank holds 10 gallons, add one gill (¼ pint) of "Gomor" when filling.



Positively Increases Mileage 25% to 50%

"Gomor" is a scientific lubricant, and is the invention of a well known Detroit chemist. It contains nothing injurious to motors—it is a great benefit to motors. Do not confuse "Gomor" with any of the ether, camphor or other harmful chemicals that are sometimes employed to temporarily increase speed.

"Gomor" is a high grade **lubricant** that withstands the heat generated in any gasoline motor. It keeps a thin film of oil on vital parts of the motor that are imperfectly lubricated or inaccessible to usual methods of lubrication. Thus friction is lessened and motor runs with more power. In this way, mileage per gallon of gasoline is increased 25% to 50%—a big saving you will appreciate.

Four Year Tests

"Gomor" is not an experiment. Upward of one thousand tests of "Gomor," covering a period of four years, have been made. These tests have been conducted by leading automobile engineers and have been most exacting. Many motor companies and thousands of private owners testify to the merits of "Gomor."

Saves Wear on Motor

Friction is the thief of power, and "Gomor" reduces friction to a minimum. "Gomor" saves wear and tear on motors and thereby greatly increases their life. Our exhaustive tests have proved this fact.

"Gomor" must do all we say—else we will refund your money

The Gomor Oil Company is a thoroughly responsible concern backed by a number of Detroit's leading business men. "Gomor" is widely used in the East, and is now being rapidly adopted by Western motorists.

"Gomor" sells for $1.00 sample quart can, prepaid to your address. "Gomor" really costs you nothing, because it saves its cost many times over in reduced fuel bills. Order today or send for booklet, testimonials and sworn proofs.

Gomor Oil Co., Sole Manufacturers, Detroit, Mich.

Humphreys, Baker & Co., Hearst Bldg., San Francisco
Pacific Coast Distributors
(Address nearest office) (3)

A co-operative creamery is being sought by the dairymen of Corning; 500 cows have already been promised.

Classified Advertisements.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

WANTED.

WANTED—About seventy-five young men and women to enter the WESTERN NORMAL on August 30th, to prepare for teaching. Western Normal graduates secure and hold good positions. We assist graduates to secure good positions and promotion. We save you time and money. For information address, WESTERN NORMAL, J. R. HUMPHREYS, Principal, Stockton, Cal., Box 704.

PARTNER WANTED—Owner of 800 acres sub-irrigated bottom land desires to join party furnishing the cows for operating a dairy on shares. For particulars, apply Box 989, Pacific Rural Press.

AGRICULTURAL GRADUATE, University of California, desires position as manager of ranch. Several years' practical experience fruit, stock, farm machinery and handling men. Box XX, this office.

BEES.

INSTRUCTION BOOKS and prices, bees, supplies, etc. Free. Spencer Apiaries, Ventura, Cal.

MISCELLANEOUS.

APPLES—Buy direct from the producer. Belleflower now ready. Bulk pack, 4 and 4½ tiers. Graded to Fancy, 70c per box F. O. B. Watsonville. Satisfaction guaranteed. Try a box or two. You will recommend them to your friends. Edward A. Hall, Watsonville, Cal.

FREE BUILDING PLANS AND SPECIFICATIONS.—I represent one of the largest building material houses on the Pacific Coast, and will gladly furnish you plans and specifications FREE. E. W. Barter, 1625 Staunton Ave., Los Angeles.

SECOND HAND WATER PIPE and screw casing. New threads and couplings dipped in hot asphaltum. All guaranteed. Send us your inquiry. SHECTER PIPE WORKS, 306-8 Howard St., San Francisco.

LIVING EXPENSES REDUCED THROUGH CO-OPERATIVE BUYING—Write for catalogue and particulars Pacific Co-operative League, D236 Commercial St., S. F.

"SMITHS' PAYS THE FREIGHT."—To reduce the high cost of living, send for our Wholesale to Consumer Catalog. SMITHS' CASH STORE, 106 Clay St., San Francisco.

GOOD HOME with young or middle-aged couple on ranch by young man able to do some work. Will pay board and room. Give particulars. Box 41, Rural Press.

SOMETHING NEW—Buy your Tea and Coffee from the Importers. Always fresh. Write for list. THE WM. J. SCHROTH CO., 112B Market St., San Francisco.

$40 WILL RENT 20 acres, Santa Cruz County, one year. House, barn, free wood, fine land. Address P. T. Nerell, San Jose, Cal.

TRACTOR PLOWING by time or contract. Special plow for hard ground. J. W. Seitz, Mountain View, Cal.

GAS ENGINES, Motors, Generators, Pumps. Good as new. Bargains. 310 Sansome, San Francisco.

LAND FOR SALE.

FOR SALE—One of the finest and best improved dairy ranches in San Joaquin Valley—3 miles from Modesto, fully equipped; good bargain. Write for photos and description. Deal with owner direct; no agents. This is no junk, and will pay you to investigate. G. O. Hillier, 2106 Telegraph Ave., Oakland, Cal.

SCHOOL LAND FOR SALE NOW.—600,000 acres to select from. Lists, particulars, SCHOOL LAND MAP, $2.50. Also county sectional maps showing GOVERNMENT LAND, $2.50 any county. Order TODAY. "Land Reporter." NOW, until 1917, $2.50. Subscribe at once. JOSEPH CLARK, Sacramento.

CALIFORNIA LAND—Money-making little farms, high class, low priced properties in all counties. Call or write the oldest land office in California; we will save you 25 to 50 per cent. C. M. WOOSTER CO., 303 Phelan Building, S. F. Catalogue free.

WANTED GOOD FARM, or unimproved land from owner. H. L. Downing, 145 Palace Bldg., Minneapolis, Minn.

FOR RENT—300 acres of alfalfa land. Apply to J. H. Glide, care West Sacramento Co., Sacramento, Cal.

TREES AND NURSERY STOCK.

WALNUT TREES—Eureka and El Monte varieties a specialty; also Franquette and Placentia. Write for prices and description of stock. Personal inspection invited. Eureka Walnut Nursery, Montebello, Cal.

RECLEANED ALALFA SEED, excellent color, very high germination, first-class quality, 19c per pound, F. O. B. your railroad station. Send for sample. E. F. Sanguinetti, Yuma, Ariz.

STRAWBERRY PLANTS—Layer plants now ready. 50 varieties, including the FALL BEARING Asparagus Roots, etc. Catalog free. J. Kelfford Hall, Route 5, Rhodesdale, Md.

ADDRESS MILWAUKEE NURSERIES for French Prune Trees on Myrobolan Plum roots. Milwaukee, Oregon.

ALMONDS WANTED—BITTER ALMONDS FOR PLANTING. ADDRESS BOX 94, LOOMIS, CAL.



Now is the Time to Feed
Coulson's Egg Food

to your pullets as well as your hens, commencing at the age of three months.

Write for free book "Chickens" from shell to market.

COULSON CO.
Petaluma, Cal.

Does California Table Poultry Yield Profit?

[Written for the Pacific Rural Press by George H. Croley, President Federated Poultry Assn. of California.]

Is there profit to be made in utility poultry raising for market in California? This is a question we are called upon to answer almost every day. That the industry is a profitable one is proved by the number of our poultry keepers who have been successful. It is true, however, that many fail in this business, as in all others, chiefly because they are not fitted for it, undertake too much with too little resources, or meet unusual misfortune soon after starting. Approximately twenty or thirty persons each week apply for advice in regard to entering the business and fully one-third of these applicants are vigorously urged to stay out of it because their statements indicate that they have little or no chance to succeed.

There seems to be a good market for eggs in California, but "is the market for table poultry inviting?" is another frequent question. It has been demonstrated that excellent grades of poultry for table purposes can be produced at a profit in practically every part of California, and the demand for the choicest specimens is never supplied. To illustrate that there is a very good demand over local supply we present the following which is sent us by A. W. Robinson, Sec'y. Santa Cruz Poultry Ass'n, who has been investigating this matter:

Carloads of Poultry Imported.—"Every year carloads of poultry enter this State, consigned to San Francisco, Sacramento, and Los Angeles, from Kansas, Oklahoma, Nebraska, Missouri, and other eastern points. One Nebraska shipper informs the writer that he sends to California about fifty-two carloads of poultry a year, the average weight of the cars being from 17,000 to 19,000 pounds net; or about 4500 to 4700 fowls to each car. This shipper estimates that other parties in his state ship to California annually about 190 carloads of poultry.

"Another Nebraska shipper writes: 'We shipped to California last year 144 carloads of live and 12 carloads of dressed poultry, all but five of these cars being consigned to San Francisco. I think, in addition to our shipments, there were shipped from Nebraska an additional 150 carloads of live poultry and probably 10 carloads dressed poultry.'

"A produce company in Enid, Oklahoma, writes Aug. 1: 'We probably ship more poultry to California than all other shippers of our State combined. Since Jan. 1 of this year, we have shipped into your state 40 carloads of live poultry, mostly to San Francisco, each car averaging about 4000 head, which means 160,000 chickens, valued at about $120,000 in the San Francisco market. The above average, if maintained through the year, will show about 60 to 65 cars for the year 1915.'

"One Missouri poultryman furnished parties in California in the summer of 1914 some ten carloads of Missouri poultry.

"Armour & Co. of Kansas City shipped two or three carloads of turkeys to California at Christmas time.

"The Stamper Co. of Moberly, Mo., writes: 'We hear a rumor that California has more turkeys this year than can be consumed at home. We wish to know if this is true. The production of both chickens and turkeys in this section is very light; in fact I think we have only half a normal crop. If you have plenty, it may be possible that shipments of poultry will be reversed this year.' "

A prime requisite to success in California consists of discovering just what the market wants—what the poultry keeper's customer is willing to pay liberally for.

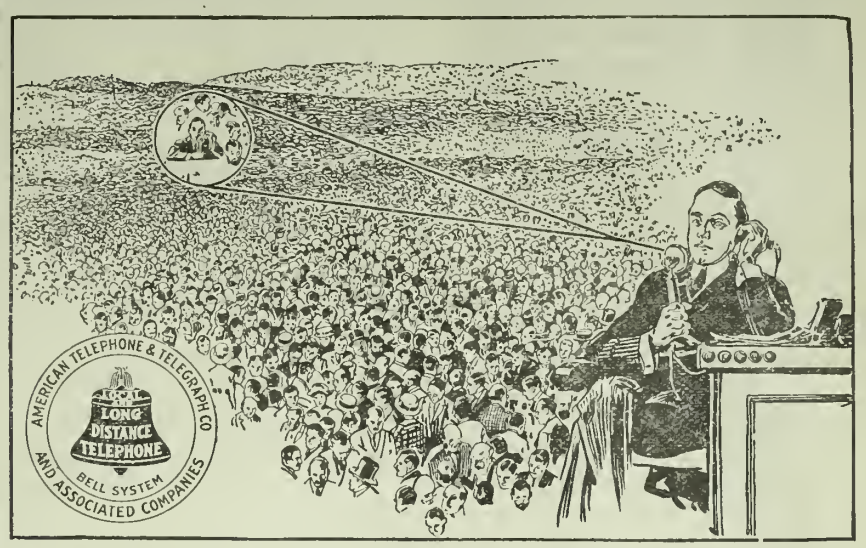
Since the poultry keepers have formed co-operative associations in some parts of the State, a number of the members have received some severe shocks. A prominent officer of one co-operative marketing association recently told us how his eyes were opened. The association secretary telephoned him to come down and see the "starts"—partly incubated eggs—he was delivering. It turned out that his four-year-old hens were over fat and retaining the eggs for three or four days in the oviduct. He acknowledged that had this report been received from an egg-handling house in the city he would have classed them at once as dishonest and tricky. An active member of another community recently called and stated he had been delegated to find out why they received from two to four cents under market quotations for their eggs. He said: "I have found we are getting all our eggs are worth, but how am I to explain to my neighbors?" We advised him how to proceed, but in order to keep the cat in the bag, we cannot, for the present, state what we advised. Each poultry keeper who thinks he should receive better prices should investigate the market in order to discover whether he is delivering what his customers really want, or is simply gratifying his own imagination.

THE BEST EXHIBIT.

A series of interesting stories, with the West as a setting ground, have been appearing in Collier's Weekly. Emily Post, under the title of "By Motor to the Fair—A Trip from New York to San Francisco," enumerates her thrilling experiences and describes in a most apt manner the wonderful, awe-inspiring scenic effects of the West. In speaking of the Exposition Exhibits, it should be most gratifying to know that among all the displays from all the States of the Union and foreign countries of the world, the exhibit of a California concern should be considered one of the most interesting and attractive on the grounds. This is indeed a very high and praiseworthy compliment, the original remarks themselves bearing repetition: "To a woman the Sperry Flour exhibit is quite ingenious and, if anything, more interesting. They have a whole row of little booth kitchens to show how all the nations of the world use flour. A camper tosses flapjacks over a camp fire, a colored mammy bakes Johnny cake and corn pone, a Mexican makes enchilladas and tamales, a Swede, a Russian, a Chinaman, a Hindoo, and four or five others each make their national wafers and cakes (and give samples!). In the center at a big oven is baked homemade American bread and cake and pie of such deliciousness that everyone who passes by looks as longingly as the proverbial ragamuffin at a baker's window."

We are informed by Mr. H. L. Murphy of Perkins, Sacramento county, that he will leave shortly for Nebraska to purchase 75 head of Shorthorn cattle. Fifty head of these will be females for the founding of a new herd in this State; and the other 25 head will be bulls which Mr. Murphy expects to market the coming season.

A new dairy is being established at the Lake place in connection with the Vina Ranch at Vina, where 100 choice Holsteins are kept.



The Man in the Multitude

That the human voice may be transmitted across our continent by telephone is the marvel of this age of wonders. Yet the full significance of the achievement is not realized if it is considered strictly as a coast-to-coast connection.

The Transcontinental Line not only bridges the country from east to west, but, by having finally overcome the great barrier of distance, it has removed the last limitation of telephone communication between all the people of the nation.

This means that the voice can be sent not only from New York to San Francisco, but from *anywhere* to *anywhere*—even from *any one* to *any one*—in the United States.

Wherever you are, it is possible to reach any one of our hundred million population. You can single out from this vast throng any particular individual with whom you desire to speak.

To bring this about, the Bell System has spent years and millions, extending its lines everywhere, anticipating the ultimate triumph. It has had the foresight and the courage to unite this great country, community by community, into one telephone neighborhood.

With success achieved by the Transcontinental Line, the established Bell highways make you, wherever you are, the near neighbor of your farthest-away fellow citizen.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

Poultry Breeders Directory

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

BABY CHICKS! ORDER NOW for Spring delivery. Only a small deposit reserves any quantity any time. Rhode Island Reds, Barred Rocks, Black Minorcas, White and Brown Leghorns. Only good strong chicks shipped. Write for circular. We are hatching now and can fill a few more orders for October and November. Campbell Poultry Ranch, Campbell, Cal.

THE SANTA CLARA VALLEY HATCHERY can fill orders for 8 varieties of baby chicks and ducklings. J. A. Bihn, R. 6, San Jose, Cal.

BABY CHICKS AND EGGS—Hoganized Black Minorca, White Leghorn stock specialties. Free instructions on raising chicks. Hicks Jubilee Hatchery, Petaluma.

BARRED PLYMOUTH ROCKS—"The kind that Win and Lay." Choice stock for sale. Catalog free. Chas. H. Vodden, Box 396, Los Gatos, Cal.

LARM'S RHODE ISLAND REDS—Cocks, Cockerels, Pullets. I have a fine lot of birds ready for early Fall business. Exhibition and utility. Wm. Larm, 3854 39th Ave., Oakland, Cal.

WHITE PLUMAGE POULTRY FARM and Hatchery. Sells Fall and Winter chicks. White Leghorns. Barred Rocks and Rhode Island Reds. Circular free. H. A. Schlotthauer, Exeter, Cal.

CROLEY'S EVERLAY EGG MASH AND CROLEY'S SCRATCH FEED form a perfect balanced ration. Ask your dealer for them.

TRAPNESTED LEGHORNS — White and Buff Stock. Eggs, chickens. Arthur R. Schroeder, Box 179E, Mountain View, Cal.

ORPINGTONS, BUFF AND WHITE, Black Minorcas and Carneux pigeons. Mrs. Susan Swaysgood, Pomona, Cal.

BARRED ROCK PULLETS for sale Fairmead Poultry Farm, Fairmead, Cal

HARES AND RABBITS.

LEADING RABBITRY IN AMERICA—Flemish Giants and New Zealands. Cut your living expenses. Catalogue free. Empire Rabbitry, Empire, Cal.

BOSWORTH'S Imperial Red New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville, Cal.

BELGIAN HARES—Young stock for sale. Hurd Bros. St. Helena, Cal.

TURKEYS, DUCKS AND GEESE.

HART'S BRONZE TURKEYS—Limited number of last season's breeders for sale at reduced prices. Albert M. Hart, Clements, Cal. (Successor to Ed Hart.)

CHICKENS, DUCKS, GEESE, GUINEAS, PEA FOWL. Address Wm. A. French, 545 W. Park St., Stockton, Cal.

HOPLAND STOCK FARM

HOPLAND, CAL.

Standard Bred S. C. White Leghorn Cockerels, selected for Breeders. **Four months old, $12 per dozen; Yearling Hens, $12 per dozen.** Standard Bred White Plymouth Rock, Fishel and Owen Farm Strains **Direct.** Hens one and two years old $18 to $24 per dozen. Four to five months' old pullets, $18 per dozen. Selected Cockerels and Cock Birds, $5 each and up.

The Home Circle.

Conducted by Rena Shattuck.

LIFE: A MEDITATION.

Alfred E. Piercy.

Life is not one unending vale of tears,
One long Gethsemane, one way of pain;
It hath its raptures and its inspirations,
Its mounts of wide-eyed vision and discernment,
Its solemn moments when the still small Voice
Speaks to the hushed soul in secret words of power;
Its tongues of fire descending from above,
Fraught with the power divine to speak and do.

From Calvary to Olivet we climb,
And ever rising, reach those Pisgah heights
Where we can look abroad and view God's plan,
Which, visioned thus from lofty planes, reveals
Its ever widening significance,
Embracing all the worlds in one grand sweep,
Life hath this purpose; every soul shall grow,
And in perfection God's own likeness show.

THE BLUE-BELLS.

"Us have a new baby to our house," said Baby Blue-Eyes, with a catch in her voice which sounded very much like she was on the verge of tears.

"Do you like it?" asked Peter Peters, her little playmate, at whose house babies were so plentiful as to make his home uncomfortably crowded.

"I don't like it," said Baby Blue-Eyes, winking to keep back the tears.

"Why, isn't it pretty?"

"Not pretty one bit, Peter Peters, 'sides it's a girl, an' now my Mama and Papa won't like me no more. I'm not their real little girl, they boughted me out of a orphan 'sylum, an' the angels bringed this one."

"How do you know?" asked Peter Peters.

"My Mama told the nurse. I was in my crib, an' they're going to give it to the new baby. I wasn't asleep, an' my Mama said if she'd know'd they was going to have this dear little treasure, they'd never boughted me. Nurse said I'd be good to wheel the baby, an' my Mama said, 'No, she's too little, she'll only be trouble.' Now, Peter Peters, I'm going to run away an' you mustn't tell nobody."

Peter Peters cried when he found Baby Blue-Eyes determined to leave the home where she was no longer welcome, but he promised he'd never tell, and as his family moved out of the neighborhood next day, his little playmate was soon forgotten.

When Baby Blue-Eyes' Papa came home, she ran to meet him, but he didn't pick her up and kiss her and say, "How's Papa's baby girl?" as he had always done, but instead, "Papa can't stop now. How's Mama and dear little baby sister?" And he went right on up to her Mama's room and told her to stay downstairs. He wouldn't put on the slippers she had warmed for him, and he didn't talk about anything but the new baby all during dinner time. Then he told her she was in the way and must go to bed just as soon as dinner was over, instead of crawling into his lap and listening to bear stories and all about the good fairies.

"Katy, the cook, will put you to bed in the nursery, for the baby must have your crib, and if you cry and wake the baby, Papa will bave to punish you," he said, as he closed the door on his way out.

What a funny world it is that a bran new baby can change everybody so, she thought as Katy tucked her into bed.

"They don't like bougbten babies out of 'sylums, do they, Katy?" she asked anxiously.

"Not all of them, but you are all right, Baby Blue-Eyes," replied Katy as she prepared to turn out the ligbt.

"No, they don't, an' I'm going away to live with the fairies."

"All right, good-bye, and when you see the fairies give them my love," laughed Katy as sbe went downstairs to the kitchen.

All the flowers were holding high carnival in the silvery moonligbt when suddenly the trumpet-vine sounded an alarm, and tbe flag waved its colors to warn them that there was an outsider among them. The fox-gloves stopped their boxing match, and the snap-dragon stood guard while all the flowers trembled with excitement. The Queen of the flowers—the Easter Lily, commanded silence as the little white figure with golden curls came toward them.

"Who are you?" asked the Queen.

"Just dear Baby Blue-Eyes," said the child. "I want to be a fairy flower just like you."

"She's a little flower child," whispered the Violet to the For-get-me-not.

"What brought you here?" asked the Easter Lily.

"I comed myself. Nobody loves me now, for we've got a new baby. I ain't my Papa's dear little angel child no more, an' I want to be a fairy."

The Easter Lily calle' all the flowers around her to talk tbe matter over.

"She has heard part of our secret work, which no human being has ever heard before. There is only one thing to do and that is to create her into a flower."

"Please do," pleaded Baby Blue-eyes.

"We can do nothing else," responded the Queen, and all the flowers nodded approval. "She must be a wild flower first, for she would be a crude cultivated blossom. Now what form shall she take? She cannot be a lily or a rose, or an orchid, a dahlia nor a chrysanthemum."

"She ls such a dainty little thing, make her as blue as her beautiful eyes," begged the Llly-of-tbe-Valley.

"I have no objection to her being a bell," said the Canterbury Bell.

"Good," said Queen Easter Lily. "The Rose, the Giant of Battle, will escort her to yon mossy knoll. The Daisies will proceed to weave a chain around her, and the Maid-of-the-Mist shall cast a veil of mist over her, so she cannot be seen. At the stroke of midnight when the mocking bird carols to the world that a new day is born, the veil will disappear and the new Blue Bell, or Baby Blue-Eyes, as she calls berself, will appear.

There was great rejoicing among the flowers and they swung on their stems in high glee, the Canterbury Bells ringing a welcome and the Trumpet-vine sounded the good news until he was hoarse.

Promptly at midnight, the carol of the mocking bird broke forth, the Daisies broke their chain and the veil of mist floated away leaving the mossy knoll shining in the silvery moonlight, beautiful in its wealth of dainty Blue-Bells or Baby Blue-eyes as the fairies prefer they should be called.—Polly Larkin.

SCHOOL NOTES.

The State Board of California has established at the Whittier Reform School a department of research, combining the principles of eugenics and psychology, to determine the cause of delinquency in juveniles. The work is the first of the sort undertaken by any State. Arrangements were completed by Fred C. Nelles, superintendent of the school, and the work bas started at the new hospital and receiving cottage. J. Harold Williams, a fellow in psychological research at Stanford University, and Professor Cowdery, from the eugenics record office of New York, will take charge of the study room and field and laboratory work, respectively. The eugenics records office is financed by the Carnegie Foundation and Mrs. Edward H. Harriman. During the past decade the State has spent more tban $4,000,000 on its juvenile delinquents, according to Nelles.

A camera club has been organized in the Central High School at Minneapolis. A. P. Andrews, head of the physics department, has charge of it. The members of the new club will visit the big industries of tbe city and photograph the different commercial processes. The pictures will be used in the physics laboratory lantern to illustrate the work there. The club is expected to have a membership of about 30 or 40 of the students from the physics and chemistry classes who have cameras.

A college course in motherhood soon will be offered at the University of Chicago. Every branch of the subject will be taught, from the preliminary upbuilding of the health of the mother to the care of the growing child. The course will probably be in charge of Dr. Marie Maver, head of the university's medical work, including the university household.

By going to school and being marked "present" for at least 40 days of the school year last year the 47,000 pupils in the Minneapolis public schools saved the state $170,000, according to C. G. Schultz, state superintendent of education.

HAIRPIN FAMINE.

Girls, save your hairpins!

It has been figured out that 35,000,000 girls and women in the United States use hairpins and that they lose 45,000,000, considerably more than one apiece, each day.

Now that the supply—which has been chiefly from European countries now at war—has been diminished, there'll have to be more saving or there will be a hairpin famine. Honest to goodness!

The world has made $41,000,000 worth of hairpins each year. And women of the United States have used $18,000,000 worth.

TWO NEGATIVES.

Donald, the boatman, had been taking the minister, a total abstainer, out fishing, and was asked on his return if he'd had a good day.

"Na, na," returned Donald. "Tbe mean-speerited body had nae whisky, sae I took him whaur there wls nae fish."

SATISFIED.

"I'd rather play golf than eat."

"But what does your wife say to that?"

"Oh, she doesn't care. Sbe'd rather play bridge than cook."—Detroit Free Press.

SUGAR
BEST CANE GRANULATED
25 POUNDS $1 FOR
50 Lbs. for $2
75 Lbs. for $3
100 Lbs. for $4
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10 bars Fels-Naptha Soap	.47
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Bigger Money this year than ever in trapping coon, skunk, fox, mink, muskrat, etc. You can trap furs—we teach you how. Write for free book.
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GUARD YOUR HEALTH.

There is hope for future health and happiness if you store up against the days to come reserve materials of strength, symmetry, skill and adaptability to changes as they appear. The old sand in the falling glass of Time is thus forestalled, if not turned backward.

Muscular development, neglected in youth, can be acquired in middle and advanced age as stored-up vitality to ward off calamities.

To acquire physical symmetry and to maintain it against the ravages of the future, shoulder-blade exercises, graceful dancing, squatting, kneeling, trunk bending, chest expansion, and respiratory gymnastics should be carried out a dozen times in sequence. The shoulder and girdle muscles will also, by these exercises, be equipped with new and abundant vitality.

GARDEN LORE.

Parties who have visited the San Diego Exposition state that one of the most beautiful features of its many attractions is the Wild-flower Gem. They have continued to plant seed throughout the year so there has been a wealth of beautiful wild-flowers throughout the Exposition. An Eastern visitor described it as "an exquisite gem consisting of nature's own treasures."

I have talked with two leading florists within the past week and their ideas were very different in regard to the treatment of ferns. One claimed that the best results were obtained by immersing the fern for fifteen minutes in a bucket of water. The other florist claims that the immersing process is not bad occasionally, but if persisted in for any length of time it will drown the plant. He believes in giving a little water every day, not allowing it to become dry, and sprinkling the entire plant occasionally. Another successful grower of ferns says she treats her plants to a teapoonful of castor oil at the roots about every three months, being careful not to break the new fronds. Her ferns are certainly beautiful and grow like magic.

The little boys and girls who have pets are going to have a chance to show them, for a children's pets' exhibition is to be held at the Exposition December 2 and 3, just before the great show closes. Entry blanks, for which there are no charges, may be obtained by addressing the superintendent of the children's pets' exhibition, department of livestock, in care of the Exposition.

The exhibition has been indorsed by many of the leading educators of the State. It is designed to encourage children to have pets. There will be exhibited pets of all kinds and varieties, with two legs or four, that creep, crawl, fly or swim; nor will there be a limit as to size, worth, color or pedigree — all that is required is that the animal, bird, reptile, fish or insect be a pet of some child.

In Australia the birds have no song and the flowers have no scent, though the leaves of every tree are full of odor.

FASHION TALK.

The quiet colors popular for autumn are known as "silent" colors.

Have you seen the new storm coats? They are almost transparent, glossy and of very bright colors. One of them on display recently was almost a grass green with a three-inch border of a darker green. The bright purple had a royal purple border. They are not nearly so genteel-looking and attractive as the cravanettes that have been popular for the last two seasons.

Some of the new fall hats are extremely plain, but nevertheless very becoming to most faces. The old English walking hat with slightly higher crown is one of the popular shapes. I noticed one that seemed to attract a good deal of attention among the new fall styles that was made of dark pansy purple velvet, perfectly plain and the only trimming was a band of the same with a large oval steel buckle in front and the back. Purple in all of its shades will be worn a great deal during the fall season.

Some of the short black silk gloves are showing black and white striped tops. They are very attractive when worn with a natty costume.

Wine color sounds old-fashioned, but it's the newest tint in fashion's color chart. The lovely rich purple of Bordeaux vintage are the colors you'll see oftenest in modish gowns and coat suits.

CLIPPINGS.

The following are Jefferson's ten rules and if lived up to they will aid in smoothing out the rough edges in life's journey:

Never put off until tomorrow what you can do today.

Never trouble another for what you can do yourself.

Never spend your money before you have earned it.

Never buy what you don't want because it is cheap.

Pride costs more than hunger, thirst and cold.

We seldom repent of having too little.

Nothing is troublesome that we do willingly.

How much pain the evils have cost us that have never happened.

Take things always by the smooth handle.

When angry, count ten before you speak: if very angry, count a hundred.

LOVE'S WAY.

"Of course, he hasn't any money, but Charlie says love will make a way."

"Yes, I noticed it will," said the father. "Thus far it's made away with about 28 dollars' worth of electricity."

The oldest living things in the world are the giant sequoia trees of our Pacific Coast. Naturalists have found 79 specimens more than 2,000 years old, according to their rings, three more than 3,000 years and one that was 3,150. This oldest tree was a sturdy sapling when Paris and Helen fled to Troy.

Peas found in mummy cases have been planted recently and found to grow.

ARE YOU IDENTIFIED?

Every man, woman and child should carry an identification card in case of accident. It is not safe to venture beyond the boundaries of one's own home, without carrying a card on your person, or a tag giving your name, address and phone number. A lady from the country showed me her identification tag that she had made following a terrible accident, on a previous visit to the city. She was unconscious for hours and unable to notify her family. The first thing she did after getting out of the hospital was to have a little silver tag made, and engraved with her name and address, and her card as well, with name, address and telling who to notify in case of accident, in her purse. Many persons have the aluminum tags which are inexpensive and which take the engraving well, sewed in their coats.

A GOOD PROFIT.

Uncle Tom Profitt, aged 81, and the Widow Goode, 71, were married in Monroe county. The preacher made a Goode Profitt in tying the knot. — Hopkinsville, Ky., Kentuckian.

SHE WAS A PRIZE.

"Are you familiar with Dante, Miss Kittish?" asked Mr. Tredway.

"No; but I can make pumpkin pie that fairly melts in your mouth."

"Will you marry me?" asked the young man, eagerly.—Exchange.

WHY MEN EAT MORE.

That men eat 5 or 6 per cent more than women—not because they are gluttons, but because they actually require that much more nourishment—appears as a result of an investigation made in the nutrition laboratory of the Carnegie Benedict, says the Literary Digest. The reason for the discrepancy seems to be that women have a smaller proportion of active tissue than men of the same weight, and more inactive material, such as fat. The investigation disclosed that the average woman generates only 1,355 heat units in 24 hours, as against 1,638 produced by the man, or about 2 per cent more for the latter per pound of body weight. When groups were compared, after careful selection of individuals of nearly the same height and weight, the men were found to produce about 12 per cent more heat than women.

STORY OF ALGY.

"Have you ever heard the story of Algy and the bear?" asked a boy of his father.

"It's very short. 'Algy met a bear; the bear was bulgy; the bulgy was Algy.'"—London News.

It is a popular error to think that the pulse may be felt only at the wrist. It may be felt in any superficial artery—for instance, at the temple, in the neck, or behind the ankle, on the inner side.

The Drink that gives **WOMEN** *Strength*



Ghirardelli's Ground Chocolate is a sustaining beverage. Women whose strength is taxed for any unusual cause will find a daily cup of Ghirardelli's just the thing to meet the drain on their bodily vigor.

Ghirardelli's Ground Chocolate in hermetically sealed cans is a blend of finest cocoa and pure sugar—delicious, strength-bestowing—an economical palate-stirring food-beverage.

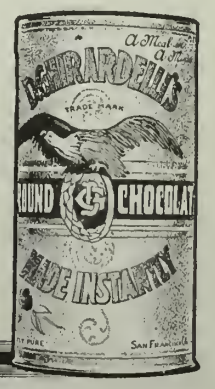
Ghirardelli's is used in more homes in the West than all other brands of chocolate combined. For your protection be sure you get

Ghirardelli's
The Only
Ground Chocolate

In ½-lb., 1-lb. and 3-lb. hermetically sealed cans.
There's a double economy in buying the 3-lb. can.

D. GHIRARDELLI CO.
Since 1852 San Francisco

You are invited to visit the Ghirardelli Pavilion at the Panama-Pacific International Exposition and see a model chocolate factory in operation



The Markets.

(Unless otherwise noted, prices quoted are f. o. b. San Francisco.)

San Francisco, Oct. 20, 1915.

WHEAT.

All the grains are firmer this week; and such changes as have been made have been in an upward direction. Slight advances are to be noted in both northern club and northern red. Local trading continues to be of slight volume.

(Wholesale prices, S. F.)

Cal. Club, ctl.	$1.65	@1.67½
Northern Bluestem	1.70	@1.75
Northern Club	1.65	@1.70
Northern Red	1.60	@1.65

BARLEY.

There is very little movement in shipping barley, chiefly owing to lack of transportation. Choice feed is in better demand and has been marked up five cents.

Shipping, ctl.	$1.25	@1.30
Choice Feed, ctl.	1.22½	@1.27½

OATS.

The improved demand for oats was continued this week; and several varieties are quoted higher in line with the firmer feeling in all grains.

Black, ctl.	$1.85	@2.00
Red Feed	1.30	@1.35
Red Seed	1.50	@1.75
White	1.40	@1.42½

CORN.

The corn market shows little change from last week; and not much business is being done. Owing to conditions in the eastern growing districts, eastern yellow is very firm. The figure given is for bulk grain, the sacked price being ten cents higher.

Eastern yellow, ctl.	$1.65@1.70
Milo Maize	1.45@1.55
Kaffir	1.55@1.65

BEANS.

The bean market continued its upward course this week. A number of varieties are quoted higher this week; and, with only one or two exceptions, the entire list is firm at the new figures. Small whites, which were marked up last week, are again on the rise. Large whites have gone up until the top figure approaches close to $5. Blackeyes, Bayos and cranberry beans have made smaller advances. The only item showing a drop is Mexican reds, which are at present very weak.

(On wharf, San Francisco.)

Bayos, per ctl.	$4.25@4.50
Blackeyes	2.90@3.00
Cranberry Beans	4.25@4.40
Horse Beans	2.25@3.00
Small Whites	4.75@4.85
Large Whites	4.65@4.95
Pink	3.25@3.50
Limas	4.50@4,60
Red Kidney	5.00@5.25
Mexican Reds	4.00@4.25

SEEDS.

The seed market appears to be stationary except for a few inquiries. Everything now depends on the coming of the rains; and no great amount of business will be done until the wetting of the ground.

Alfalfa, per lb.	17 @ 18	c
Melilotus Alba	30	c
Melilotus, Indica	6	c
Bur Clover	11	c
Oregon Vetch	4¼ @ 4½	c
Soy Beans	6	c
Canada Peas	5¼ @ 6	c
Sudan Grass	40	c

HAY.

The receipts of hay in the San Francisco market range slightly over 2500 tons in recent weeks; and this appears to be just about equal to the consumptive demand. Dealers report that most of the arrivals now coming in are coming out of warehouses, the present attractive prices being sufficient to induce shipments, notwithstanding the fact that storage charges have already been paid. Strictly fancy hay in light bales brought as high as $18 this week. Another government order for 3000 tons for shipment to Manila has aided in stiffening prices.

No. 1 Wheat	$12.00@15.00
do No. 2	10.00@11.50
Tame Oats	10.00@15.00
Wild Oats	8.00@10.50
Alfalfa	10.00@14.00
Stock Hay	6.00@ 8.00
Straw, per bale	.25@ .40

FEEDSTUFFS.

The general run of feedstuffs is firmer this week, though the only quotable changes are in rolled barley and rolled oats, both of which have advanced in sympathy with the firmer feeling in the whole grains.

(Wholesale prices per ton, carload lots, San Francisco.)

Beet Pulp, per ton	$20.00@21.00
Alfalfa Meal. ton	17.00@20.00
Alfalfa Molasses Meal per ton	20.00@21.00
Bran, per ton	26.00@27.00
Oilcake Meal	38.00@39.00
Cocoanut Cake or Meal	23.00@25.00
Cracked Corn	41.00@42.00
Middlings	32.00@33.00
Rolled Barley	26.50@27.50
Rolled Oats	29.50@31.00
Digester Tankage	45.00

VEGETABLES.

With the passing of the season, a number of lines are becoming scarce; and, where this is not accompanied with a decided drop in quality, the tendency is toward higher prices. Artichokes are now very scarce, and are now quoted at 50 to 75 cents a dozen. Celery has also registered a stiff advance. Summer squash is getting scarce and the best has sold as high as 50 cents, with practically none to be had for less than 40 cents. Egg plant and string beans are also higher.

(Wholesale Prices, San Francisco.)

String Beans	3 @ 4	c
Lima Beans	3 @ 3½	c
Peppers, bell, box	40 @65	c
Tomatoes, lug	20 @40	c
Cucumbers, lug,	40 @65	c
Summer Squash, lug	40 @50	c
Green corn sack	1.25@1.75	
Okra, small boxes	40 @65	c
Eggplant, lug	40 @50	c
Celery, doz.	30 @50	c
Artichokes, doz.	50 @75	c

POTATOES AND ONIONS.

There is very little change in either the demand or the supply of potatoes. Salinas burbanks are now coming in a little more regular as to quality, and the range of prices has narrowed considerably. Advices from the San Joaquin onion district shows continued heavy shipments of onions to eastern points and into storage. Stockton prices range all the way from 75 cents to $1.15 according to reports; but the higher figure seems to be unknown here.

Salinas Burbanks	$1.40@1.55
Delta Burbanks	.90@1.10
Sweet Potatoes, ctl.	1.10@1.25
Onions, ctl.	.90@1.00
Garlic, per lb. new	.08@ .10

POULTRY.

The market has been rather slow this week; and the fluctuations have generally been downward. Fryers are in oversupply, and are weak at a low figure. Extra hens are a little stronger as are also old turkeys.

Turkeys, old, lb	18 @20	c
do, young	23 @25	c
Broilers, 15 lbs to doz and less, lb	30	c
do, over 15 lbs to doz	22 @24	c
Fryers	17 @18	c
Hens, extra, per lb	16 @17	c
Small Hens, per lb	13 @14	c
Smooth Young Roosters per lb	18	c
Squabs, per doz	2.00@4.00	
Geese, per pair	2.00@2.50	
Ducks, young, lb	13 @14	c
Old	12 @13	c
Belgian Hares	8 @ 9	c

BUTTER.

Arrivals of butter have been a little irregular this week, but on the whole the market has held steady. Late last week prime firsts advanced one-half cent, but they are down again now to the old figure.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	27	27	27	27	27	27
Prime Firsts	25	25	25	25	24½	24½
Firsts	24	24	24	24	24	24

EGGS.

Notwithstanding rather heavy arrivals of eggs, the market has been firm all week. Prices have ranged higher; and in spite of a reaction today, are still higher than they were a week ago.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	46	46	47	49	48½	47
Sel. Pullets	38½	38½	39	39	39	38½



"Caught P. A. pipe-joy on the first puff!"

That tip-top-clever-taste is *right there*—jimmy pipe or makin's cigarette—quick as you put a match to Prince Albert tobacco. Just makes you happy because it is so good and so satisfying! The patented process by which Prince Albert is made *fixes that*—and removes bite and parch! We *know* the goodness of

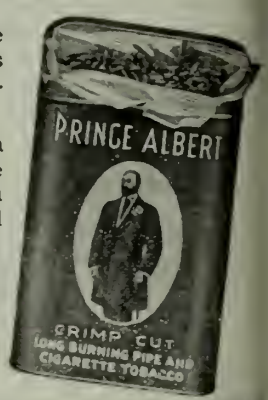
PRINCE ALBERT

the national joy smoke

We know it is *all there* in satisfaction; we know that you will delight in its flavor as you will welcome the absence of any tongue-bother.

We say to you: Lay down a nickel or a dime for a supply of Prince Albert, because it will please you more than any tobacco you ever smoked, it is so cool, and tasteful, and fragrant.

Prince Albert is sold everywhere in toppy red bags, 5c; tidy red tins, 10c; handsome pound and half-pound tin humidors, and in that fine crystal-glass humidor with sponge-moistener top that keeps the tobacco in first-class shape.



R. J. REYNOLDS TOBACCO COMPANY, Winston-Salem, N. C.

Kirstin One Man Stump Puller

Sold on 30 DAYS FREE TRIAL. A ten year guarantee and a share in our profits.

7 Different Models Light Weight, More Power. Used by the Government, East and West. Get my direct to you Prices.

A.J. KIRSTIN COMPANY
341 East Morrison St. PORTLAND, ORE.

CHEESE.

The higher prices brought in increased supplies; and there has been somewhat of a reaction, though most of the business done has been at the old quotations. Fancy California flats are down one cent.

Y. A.'s, fancy	18 c
Fancy Calif. flats, per lb	16½c
Calif. Cheddar flats, per lb	16½c
Monterey Cheese	16@17 c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	40	40	40	42	42	42
Cheese	12	12	12	12	12	12

DECIDUOUS FRUITS.

Some lines of fruits are now getting scarce; and famine prices are being paid for these where good quality can be had. In other lines where the quality is uncertain, prices are hard to fix. The demand is good for most lines. Blackberries are hard to get; and as high as $7 per chest is quoted on these. About the only Bartlett pears to be had are taken out of cold storage; and these are bringing from $2 to $2.50 per box. California peaches are now out of the market; and only Oregon peaches in small boxes are quoted. The market is overstocked with poor cantaloupes; and the price is little more than half what it was a week ago. Casabas are also lower. Grape prices are also dropping.

(Sales in S. F. Market.)

Huckleberries, lb	5 @ 7 c
Strawberries, chest	$5.00@6.00
Blackberries, chest	5.00@7.00
Figs, bx., double layer	60@85c
Pears, Bartlett, box	2.00@2.50
Peaches, small box	35 @50 c
Apples, Newtown	.75@1.00
Belleflowers	60 @90 c
Quinces, box	50 @65 c
Pomegranates, box	1.00@1.25
Persimmons, box	.75@1.25
Casabas, doz.	50 @75 c
Persian Cantaloupes, doz	1.00@3.00
Cantaloupes, lug	50 @60 c
Watermelons, doz	1.25@3.00
Grapes, Thompson:	
Seedless, small box	1.00@1.25
Malaga, lugs	.90@1.00
Tokay, lug	75 @90 c
Muscats, lug	.85@1.10
Black, lug	50 @75 c

DRIED FRUITS.

San Francisco buyers of dried fruits report that the Panama Canal situation has had a bad effect on the export demand, though this has not apparently been sufficient to affect

prices. Apricots are now largely out of growers' hands, some estimates placing the stock still in the growers' hands at from 200 to 500 tons. Good Moorparks are still bringing the top figure of 9½ cents. Peaches are weaker locally, the prevailing opinion being that lack of transportation is the chief cause. There is not much activity locally in prunes; but advices from the growing districts report a firm market, with prices tending upward. Sales at San Jose are reported at 4½ cts., a higher figure than quoted here. Estimates are that from 15 to 35 per cent of the Santa Clara crop is still in the hands of the growers. Concerning the eastern outlook, the New York Journal of Commerce says:

"California spot prunes continued to maintain a very firm position; and, though there was no change made in the quotations, prices appeared inclined to move upwards and buying remained active.

"Some shipments of the 1915 pack have been received in the market and are being offered at the commonly quoted spot prices.

"Future Coast prunes appeared to be slightly weaker. Coast packers were said to be offering quantities of Santa Clara prunes for October shipment at a 3¾c bulk basis for 40s to 60s, inclusive, f. o. b. common Coast shipping points. From a quarter to a half cent premium was being demanded on stocks of straight 40s, which were in evidence at prices ranging from a 4c bulk basis to a 4¼c bulk basis f. o. b. common Coast shipping points for October shipment. Supplies of Coast prunes for November shipment were generally about one-eighth of a cent higher than the quotation being asked for October shipment. Stocks for November shipment from the Coast were being held at a 3⅝ bulk basis as the inside figure.

"Spot apricots were being held very strongly in all quarters and operators advanced prices on available stocks about one-quarter of a cent on all grades. Selling was being done only in small quantities and brokers appeared to believe that apricots would be advanced still further within a very short time.

"Offerings of Coast 1915 pack apricots for future delivery were being held by one large California packer at 8⅜c for choice, 9c for extra choice and 9½c for fancy."

(Prices to Growers.)

Apples	6½ @ 6¾c
Apricots, per lb	7½ @ 9½c
Figs, white	4 @ 4½c
Black	2 @ 3 c
Calimyrna	5½ @ 6 c
Prunes	3⅜ @ 4 c
Peaches	2½ @ 3 c
Pears	4 @ 8 c

San Jose Prices to Growers, 1915 crop:

Apricots	8½ @ 9 c
Prunes, sub. to dist.	3¾ @ 4½c
Peaches	2½ @ 3 c
Pears	5 @ 8 c

CITRUS FRUITS.

The markets are paying good prices for valencia oranges as well as for lemons. Shipments of valencias are going east at the rate of nearly 40 cars daily and lemons are well cleaned up so that the season is closing in much better shape than most growers thought possible a few months ago.

On the New York auction Monday, Oct. 18th, prices for valencias averaged for sixteen cars from $5.70 down to $2 per box and lemons averaged from $3.55 down to $2.05 per box. On the same day at Chicago valencias averaged from $5.75 to $5.25 per box, and lemons brought $3.75 to $2.25. The new crop in California is coming along nicely and will be larger than anticipated in July. The 8 to 1 standard will retard some northern shipments for a few weeks.

At San Francisco old crop grapefruit is now getting scarce and is selling at higher prices. The new crop is expected to be on the market by the first of the month or soon after. Lemons are quoted at an advance.

(Wholesale prices, San Francisco.)

Oranges, Valencias, bx	$3.75@4.75
Grapefruit, seedless, bx.	3.50@4.00
Fancy	4.00@4.50
Lemons, box	2.00@3.50

NUTS.

Packers report an unusually large quantity of defective almonds as being offered on this market. Some lots have been received that run from 15 to 20 per cent gummy. Except for the off quality nuts, prices are well maintained at the old figures. A report that the French walnut crop will be largely marketed in America is causing some anxiety to get the California crop in eastern hands as soon as possible.

(Exchange prices, f. o. b. common shipping point.)

Almonds (1915):	
Nonpareil	15 c
IXL	13½c
Ne Plus Ultra	13 c
Drakes	11 c
Languedocs	11 c
Walnuts (1915):	
Budded, per lb	17 c
No. 1	13.6c
No. 2	10.6c
Jumbo	16.6c

HONEY.

Water White, comb	11 @13 c
Amber	10 @11 c
Water White, extracted	6 @ 7 c
Light Amber	3 @ 4 c
Dark	2½ @ 3 c

LIVESTOCK.

The livestock situation is practically unchanged. Beef cattle are coming in in good condition; and, notwithstanding an abundant supply, are bringing the old prices. Other lines show no change.

(Delivered S. F.)

Steers, No. 1	6¼ @ 6½c
No. 2	6 @ 6¼c
Cows and Heifers, No. 1	5½ @ 5¾c
No. 2	5¼ @ 5½c
Bulls and stags	4 @5 c
Calves: light	8 c
Medium	7½c
Heavy	6 @7 c
Hogs, grain-fed:	
200 to 300 lbs	6 c
100 to 200 lbs	6½c
Prime Wethers	6 @6¼c
Ewes	4¾ @5 c
Suckling lambs	7 @7¼c

DRESSED MEATS.

Steers	10 @10½c
Veals, large	12½ @13 c
Small	14 @15 c
Prime Wethers	11 @11½c
Ewes	10½ @11 c
Suckling Lambs	12 @13 c
Hogs	11 @12½c

HOPS.

The demand for hops has fallen off badly; and the market is demoralized. Prices have been marked down all along the line; and even at the low figures there is no anxiety to buy.

Sacramento	8@ 9½c
Oregon	9@12 c
Sonoma	9@11 c

WOOL.

With a dull market and falling prices, very little business is reported this week. Prices generally range lower.

Spring clip:	
Humboldt and Mendocino	18@23 c
Sacramento Valley, lb	15@16 c
Southern, year's staple	13@14 c
Six months	10@12½c
Fall clip:	
San Joaquin	7@10 c
Northern	9@12½c

HORSES.

The strength in the local horse market continues this week; and some are disposed to quote good heavy drafters a little higher than heretofore. The demand for medium and light weight stock continues slow, and quotations are a little hard to realize.

(Approximate values at San Francisco, based on auction sales.)

Drafters, 1700 lbs and up	$200@250
Drafters, 1550 to 1650	150@200
Chunks, 1350 to 1500 lbs	150@175
Wagon horses, 1050 to 1350 lbs	110@150
Green Mountain range horses, 950 to 1200 lbs.	20@ 75
Farm Workers	50@100

HIDES.

The changes this week are very slight and of minor importance. The volume of business done has not been heavy.

Steers, wet, per lb	17¼ @17¾c
dry	29 @30 c
Cows, wet	17¼ @17¾c
dry	29 @30 c
Calf, wet	17¾ @18¾c
dry	32 @34 c
Horse Hides, wet, each	$1.00@3.50
dry, each	.75@2.25
Sheepskins—	
Long wool	1.00@1.50
Short wool	50@85c

San Francisco, Calif.
Oct. 14th, 1915.

During the thirty days from September 13th to October 13th, the California Almond Growers' Exchange advanced to members nearly Three Hundred Thousand Dollars — the major portion being money borrowed on the credit and resources of the Exchange.

CALIFORNIA ALMOND GROWERS' EXCHANGE,
311 California Street, San Francisco.

SPECIAL DECIDUOUS MARKET REPORT.

By J. L. Nagle.

Sacramento, Cal., Oct. 19, 1915.

Favorable weather and encouraging market conditions seem to have developed not only a normal crop of grapes but a larger tonnage than last season. Though it was estimated a week ago that fully 75 per cent of the Tokays and Malagas had been harvested, shipments have continued heavy ever since and while some vineyards have cleaned up, others are marketing their second crop. Despite reports to the contrary, we look for a decided falling off in shipments this week and though there is quite a tonnage rolling to the eastern markets, we look for a sharp demand for the balance of the season.

The packing of Emperors in kegs is now at its height. The crop of this variety is not as heavy as was at first predicted and consequently shipments of crate Emperors next month will be light. The quality, however, is exceptional and what few cars of kegs have reached the East have arrived in excellent condition with indication that the berries will keep for at least three months. The arrival of Almerias from Spain is by no means as heavy as at this time last season.

The following prices have ruled for the week:

New York — Bartletts averaged $2.75; Clairgeaus, $2.45; Comice, $2.35; Winter Nellis, $2.40; Tokays, $1.15; Malagas, 90c; Cornichons, $1.00.

Chicago—Tokays averaged $1.05; Malagas, 80c; Cornichons, $1.10; Bartletts, $2.65; Winter Nellis, 2.30.

Total shipments to date, 13,838 cars; total shipments same date 1914, 14,137 cars.

Publisher's Dep't.

The first of a series of articles by the editor appears in this issue of the Rural Press. It is worthy of careful perusal, not only by every fruit grower, but by stockmen, general farmers and in fact every Californian. Another article by Prof. Wickson covering the cattle and dairy industry will appear next week, on which occasion an enlarged issue will be published. Read this week's paper carefully and look for a bigger and better one next week.

Two hundred and twenty-nine new subscribers were added to our list this week. The boys are doing good work in the field and we expect them to keep up the number of gains each week during the winter. Our advertisers will get fine results this season.

James Cass of Cayucos was a subscriber to the Rural Press many years ago when the subscription price was $3 per year. We have just received a letter from him from which we extract the following: "I quit farming some years ago and dropped the Press and will be 91 years old the 24th of next month, and as I am told I am good for eight or ten years more, I concluded I had better begin farming again. So here goes."

Can he come back? He can!

Wonderful New Kerosene Light

Burns Vapor Saves Oil — Beats Electric or Gasoline



10-Days FREE TRIAL

Send No Money, We Prepay Charges

We don't ask you to pay us ***a cent*** until you have used this wonderful modern light in your own home ten days—we even prepay transportation charges. You may return it at our expense if not perfectly satisfied after putting it to every possible test for 10 nights. You can't possibly lose a cent. We want to prove to you that it makes an ordinary oil lamp look like a candle; beats electric, gasoline or acetylene. Lights and is put out like old oil lamp. Tests at 33 leading Universities and Government Bureau of Standards show that it

Burns 50 Hours on 1 Gallon

common coal oil, (kerosene) and gives more than twice as much light as the best round wick open flame lamps. No odor, smoke or noise, simple, clean, no pressure, won't explode. Children run it. Several million people already enjoying this powerful, white, steady light, nearest to sunlight. Guaranteed.

$1000.00 Will Be Given

to the person who shows us an oil lamp equal to the new ***Aladdin*** (details of offer given in our circular.) Would we dare make such a challenge if there were the slightest doubt as to the merits of the ***Aladdin?***

Men Make $50 to $300.00 per Month With Rigs or Autos Delivering

the ALADDIN on our easy plan. No previous experience necessary. Practically every farm home and small town home will buy after trying. One farmer who had never sold anything in his life before writes: "I sold 51 lamps the first seven days." Another says: "I disposed of 34 lamps out of 31 calls." Thousands who are coining money endorse the ALADDIN just as strongly.

No Money Required

We furnish capital to reliable men to get started. Ask for our distributor's plan, and learn how to make big money in unoccupied territory. **Sample Lamp sent for 10 days FREE Trial.**

We want ***one user in each locality*** to whom we can refer customers. Be the first and get our special introductory offer, under which you get your own lamp ***free*** for showing it to a few neighbors and sending in their orders. Write quick for our ***10-Day Absolutely Free Trial.*** Send coupon to nearest office

Mantle Lamp Co. **81 Aladdin Bldg.**

Largest Kerosene (Coal Oil) Mantle Lamp House in the World. Chicago, New York City, Portland, Ore., Montreal or Winnipeg, Can.

10-Day FREE TRIAL Coupon

I would like to know more about the Aladdin and your Easy Delivery Plan, under which inexperienced men with rigs make big money without capital. This in no way obligates me.

Name .....

P. O. .....

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Highest Market Price
and Prompt Remittance
for dried fruits, nuts, honey, beeswax, beans, etc.
Send samples or ship direct to
J. E. LAWRENCE,
326 Clay Street, San Francisco

If You Want EGGS

In the Winter and Summer Feed Your Hens

SPERRY'S SURELAY





SAN FRANCISCO-PANAMA-PACIFIC-INTERNATIONAL-EXPOSITION 1915

Send for This Revised Book

It's FREE

The Book tells you all about the big profits in poultry raising. It tells you how you can get these big profits. It tells the truth in plain English just why some make money and many make failures of the poultry business. It shows you how you can get more eggs and how you can get them when the market price is high.

It tells you how to feed and what to feed. Of all livestock the hen is the most profitable, but she can't lay eggs unless you feed her the right materials to make eggs with. We have, by analysis, found out just what goes to make eggs—just what elements nature demands for egg producing—just how much of each ingredient is necessary—upon this knowledge we make

SURELAY

The Perfect Balanced Egg Food

SURELAY is the one egg-producing food that you can depend upon every time to give satisfactory results. We tell you honestly just what we put into it and just how we mix it. Every sack has a guaranty printed on it—What's on the Sack is in the Sack and That's What's in the Egg.

The Revised Sperry Book, "Make Hens Happy"

This Book is free. It will tell you many truths about pou ltry raising and egg-producing that you never knew before.

It tells you how you can get the benefit of our profit-sharing plan

Write your name and address on the coupon; tear off and mail to us.

The book is FREE.

SPERRY FLOUR CO.

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Please send me New Edition "Makes Hens Happy" and Sperry Profit Sharing Coupons.

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R.P.

Vol. XC—No. 18. Forty-Fifth Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO OCTOBER 30, 1915. LOS ANGELES

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California State Library

Why California for Livestock?

Second of a series of sketches in which the Editor presents suggestions drawn from long experience, of what Californians should think and do for the advancement of California Agriculture.

[Written for Pacific Rural Press.]

FROM what remoteness is it desirable to draw demonstrations of the capability of California to produce fine livestock? The other day a man from Iowa nearly roused to consciousness the human statuary behind the desk of one of our leading hotels by announcing, as he registered his name, that he had come to California to buy a drove of elephants. He explained afterwards that he was seeking graven images from Asia, but that did not make his quest any more reasonable. If he had been reading the Pliocene Times, he would have seen that elephants were produced in California, of stature and volume which would make the modern circus elephant look like a goat, and would have found the suggestion also to elephant breeders of the pliocene period in all parts of the earth to get sires from California, where the mild climate and exuberant vegetation produced elephants fit to improve the breed in all less favored countries. This is not vain imaginings, for they have pulled out of the asphaltum beds on Le Brea Rancho, not only two kinds of elephants, but bisons, mastodons, camels, horses, tigers, lions and other beasts, but also, the pliocene man, who was, presumably, caring for them when the motley herd was engulfed many thousands of years ago. Thus is the antiquity of California animal industry established!





Jerseys at the Exposition Stock Show outnumbered any other breed and surprised Eastern judges by their high quality. Jersey graded herds above. Red Polled Lordly and Hereford Omycam, Grand Champions shown below. The other breeds were well represented.

Introduction of Domestic Animals.—It seems that these prehistoric suggestions of the suitability of California for stock raising lay unproductive for ages. The aborigines during historic times gave their attention to raising clams from the mud, roots from the uplands, and acorns from the autumn dust. They apparently did little in the domestication of animals, were not sportsmen, though big game abounded, nor even hunters and trappers in a land so productive of peltry that a Russian offered once to sell a cargo of merchandise worth $30,000 to the Mexicans for otter skins which they might catch in San Francisco bay. He was refused, however, for Mexicans have never been overspry in chasing work, and the Indians were too worthless to be beaten into it. Ancient California was probably the prototype of the landscape "where every prospect pleases and only man is vile." One ean easily see that if California had caught an outshoot of the Aryan raee instead of a spawn of Diggers, her endowment of elephants, lions and tigers might not have gone for naught. Aboriginally, California was surely in a bad way and had to wait for primitive animal domestication until the Mexicans brought in a job lot of about 300 cattle, horses, asses, sheep and swine, when they came to convert the Diggers and to do political geography in 1769. Padre Junipera Serra and Don Gaspar de Portola were the joint heads of this enterprise. They are to be credited with the establishment of animal industry and historians leave us to infer that all the stock found in California before the coming of Americans was the increase of the original importation. When politics triumphed over evangelization and the Missions were secularized in 1835, the livestock owned by them consisted of 424,000 horned cattle, 62,500 horses, mules, and asses, 321,500 sheep, goats and swine. This was a great demonstration of the nat-

(Continued on page 424.)

EDGEMOOR FARMS
Santee, California

We won at San Francisco Show Senior and Junior and Grand Champion Bull; Senior and Grand Champion Cow; First in all Female Classes down to Calf Classes; First Graded Herd; First Produce Cow; First on Five Dairy Cows.

We have Sold Some Fine Bulls Out of A. R. Cows.

LET US SELL YOU ONE.



IMP. ITCHEN WOOD SORREL, Grand Champion Guernsey Cow at Panama-Pacific International Exposition.

Come and See Us at the

Guernsey View Herd

or Write for Bull List

W. H. Dupee, Owner

DAIRYMEN! ATTENTION! STOCKMEN!

Don't fail while you are at the Exposition to look into the Silo question. Of course, there is no longer any question but that every feeder of stock, either dairy or beef, needs a silo. The question is Which Silo? If you will carefully investigate the

REMCO REDWOOD STAVE SILOS

near the dairy barns, compare them with all other makes and note their many advantages you will surely be convinced this is the silo for you. We build them in all sizes and dimensions exactly as you want them for your particular needs.

Remco Redwood Tanks

With towers or without. Shipped ready to erect.

Remco Redwood Pipe

In diameters from 2 inches to 12 feet. See our exhibit of pipe and tanks in machinery hall.

All our silos, tanks and pipe are designed by our own engineers to meet every condition. Made in our big factory from CLEAR AIR-DRIED REDWOOD; selected from stock of forty million feet which we carry at all times.

Come to our office while you are in San Francisco.

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Pacific Rural Press

SAN FRANCISCO . SATURDAY, OCTOBER 30, 1915. LOS ANGELES

anama-Pacific Exposition Cattle Awards.

Foot and mouth disease causes small classes at big show, but large premiums attract a creditable showing of all prominent breeds on Pacific Coast.]

Never in this State has there been showier lot of Jersey cattle put on hibition than those shown at the xposition's cattle show last week. e older show herds of both Oregon d California were out in full force, egon breeders bringing down eir herds of imported animals, ile California breeders as usual re strongest in American type imals, which they have been striv- for.

The imported animals came nearer judge Dempsey's idea of perfec- n, based on the score card. When oduction entered into the award- the less beautiful California trons had their innings.

Eastern breeders and American rsey Cattle Club officials frequent- stated that whether the Cali- rnians won in the show ring or t, they are breeding the cows that irymen want and the kind future re cards will favor.

Guernseys: California breeders de their strongest showing in the ernseys, and for quality of show g type there has never been a onger showing in the State.

With the rapid growth of interest this breed there is an apparent provement in the type of the eed on the coast, the intent of eeders evidently being to get a tle finer type without injuring nstitution and vigor.

Chas. Hill, who did the judging, marked that the uniform quality large Eastern shows was not in idence especially in the produce dam class and the aged bull and w classes, but expressed confidence the future of the breed in this ate on the assumption that with der distribution of good breeding ock will come more uniform type d quality.

Ayrshires: The first real show Ayrshires ever held in this State as the one on exhibit last week d in fairness to this little known ottish breed it must be said that ey attracted more favorable com- ent than any of the other breeds the show rings. Their uniform- y in conformation, fine, straight, oad backs and udders, were a velation. Ayrshire lovers main- ined that in many classes the ow was as strong as ever seen in merica.

Holsteins: With the exception of e small herd and a few head own by the University of Califor- a this popular breed's showing as made up entirely by Northwest- n breeders. The high standard d uniformity of the cattle shown, some classes, notably the aged lls and the young females, spelled ality in its broadest sense. eeders who made this show came epared to meet strong competi- n in every class and the outcome as satisfying to all concerned.

Shorthorns: As was expected with a breed so popular in the State as this one there was keen disappointment that the foot and mouth disease so thoroughly upset the plans of Coast and Middle Western breeders. Notwithstanding this, the Shorthorn show was highly representative of the breed; and while none of the older California show herds were there, the recently established herds made a good showing for themselves against competition that was in many classes exceptionally strong.

Red Polled: California shared about even honors with Oregon in awards of this breed, there being a noticeable improvement in the conditioning of the animals over shows of the past. The breeders are making a bid for dairy honors.



BONNIE ORMSBY LASS 131966,
Senior and Grand Champion Holstein Cow.

Herefords: With no competition except in one class, the Hereford awards were secured entirely by Geo. Chandler. The University of California secured first on Prince Donald in the junior yearling bull class and was later awarded reserve junior and reserve grand championships on the same animal. With one exception the University took everything down the line on Hereford steers.

Brown Swiss: All awards in this division were given to B. P. Inman, who showed without competition.

Dutch Belted: The Strader herds of California were the only competitors in this division, securing all awards.

Jerseys. — Thomas Dempsey of Westerville, Ohio, judged the Jersey classes, placing the awards in the following order:

Bulls 3 years old or over: Golden Fern's Noble Jr., shown by G. G. Hewitt; Altama Interest, by G. Miller; Onoto's Cotillion Boy, by Clifford Reid; Octavia's Duke, by Frank Loughary; Maid's Jersey Duke, by G. H. Dammeier.

Bulls 2 years and under 3: Noble Emperor, shown by Loughary; Undulatta Prince, by Hembree; Fussy's Fern Noble, by H. West; Bonnie's Thelma Lad of U. V., by S. P. Kelly.

Bulls 1 year and under 2: Fancy's Raleigh, shown by West; Combination's Premier, by West; Roxy's Rochette's Noble, by Hembree; Rochette's Noble Duke, by Hembree; Financial King of L. by N. H. Locke Co.

Bull calf 6 months and under 12: Onoto's Prince of S. B., shown by West; Luckiamutes Eminent Prince, by Loughary; Undulatta Prince's Six Oxford, by Hembree; Undulatta Princess Eminent, by Hembree; Undulatta Prince's Noble, by Hembree.

Bull calves under 6 months: Onoto's Composer of S. B., shown by West; Dairy Maid's Prince, by Hembree; Martha's King, shown by Dammeier; Foxy Blondy's Valet of L., by Locke; Fresno Lemola's King of L., by Locke.

Cows 5 years or over: Imp. Jolly Berna, shown by West; Imp. Brilliant Spray, by Hembree; Glorious Juanette, by Hembree; Moehicans' Thirty-eight, by Brewer; Maid of Counsel Crest, by Dammeier.

Cows 4 years and under 5: Imp. Great Prince, by West; Valet's Golden Biddy of L., by Lockeford; Bosnians' Dimple Princess, by Hembree; Figgis of C. V., by Kelly.

Cows 3 years and under 4: Nasheville Susie, by F. E. Lynn; Valet's Dairymaid of L., by Locke; Jewel of Venadera, by Miller; Jolly's Nioba, by Dammeier; Sir Oxford's Brilliant Spray, by Hembree.

Cows 2 years and under 3: St. Maives Beauty, shown by Ed. Carey; Valet's Golden Lemola of L., by Locke; Lissa Success, by E. L. Brewer; Alsatia of S. B., by West; La Vallettes Violet of L., by Locke.

Heifers not in milk 18 months and under 2 years: Dulcet's Daisy, shown by West; King's Leada of L., by Locke; Bonnie Belle of K., by Kelly; Noble's Alcy, by Hembree.

Heifers 1 year and under 18 months: Cotillion's Sunny Maid, shown by West; Cowslip's Golden Begonia by Reid; Ibernian's Heroine by Hembree; Onoto's Maggie of S. B., by West.

Heifers 6 months and under 1 year: Cowslip's Financial Maid, shown by Reid; Eminent's Wardress, by Reid; Onoto of Sunny Bank, by West; Onoto's Alsatia of S. B., by West; Onoto's Beauty of S. B., by West.

Heifers under 6 months: Luckiamutes Lady Octavia, shown by Loughary; Onoto's Fern Dell of S. B., by West; Onoto's Maid of S. B., by West; Boise Rosaire, by Carey; Lora B. of L., by Locke.

Cow with official yearly record begun after 5 years of age: Pearl of Venadera, shown by Miller; Moehican's 38, by Brewer; Lorna of Venadera, by Miller; Wanda of Venadera, by Miller.

Cow with official yearly record begun under 5 years of age: Nashville Susie, shown by Lynn; Imp. Brilliant Spray, by Hembree; Bosian's Dimpled Princess, by Hembree; Jewel of Venadera, by Miller; Amethyst of Venadera, by Miller.

Jersey graded herd: 1st, West; 2nd, Hembree; 3rd, Miller; 4th, Locke.

Breeders' young herd: 1st, West; 2nd, Hembree; 3rd, Loughary; 4th, Locke; 5th, Kelly.

Calf herd: 1st, West; 2nd, Locke.

Produce of dam: 1st, West; 2nd, West; 3rd, Miller; 4th, Locke; 5th, West.

Get of one sire: 1st, West; 2nd, Lynn; 3rd, West; 4th, Hembree; 5th, Locke.

Advanced registry cow shown with 2 of her progeny, owned by exhibitor: 1st, Miller; 2nd, Kelly; 3rd, Hembree; 4th, Brewer; 5th, Kelly.

Dairy herd: 1st, Miller; 2nd, Locke; 3rd, West.

Senior Champion Bull: Golden Fern's Noble Jr., shown by Hewitt.

Reserve Senior Champion Bull: Altama Interest, by Miller.

Junior Champion bull: Fancy's Raliegh, shown by West.

Reserve Junior Champion Bull: Onoto's Prince of S. B., shown by West.

Grand Champion Bull: Fancy's Raliegh, shown by West.

Reserve Grand Champion Bull: Golden Fern's Noble Jr., shown by Hewitt.

Senior Champion Cow: Nasheville Susie, shown by Lynn.

Reserve Senior Champion Cow: Imp. Jolly Berna, shown by West.

Junior Champion cow: Cotillon's Sunny Maid, shown by West.

Reserve Junior Champion Cow: Cowslip's Financial Maid, shown by Reid.

Grand Champion Cow: Nasheville Susie, shown by Lynn.

Reserve Grand Champion Cow: Cotillon's Sunny Maid, shown by West.

Guernseys: The Guernsey classes were judged by Chas. L. Hill, of Rosendale, Wisconsin, the awards being placed in the following order:

Bulls 3 years old or over: Imp. Itchen May King, shown by Walter Dupee; Sam Simpson, by D. H. Looney; May King of Fern Ridge, by C. W. Main; King of Mayfield, by Albion L. Gile; Don Adonis of Linda Vista, by Humphrey.

Bulls 2 years and under 3: Yeoman's King, by L. H. Albertson; President's Mysie, by L. D. Smith.

Bulls 1 year and under 2: Fermain's Iowa Boy of the Oaks, shown by Looney; Auricles Cherub of Edgemoore, by Dupee; Mayhews Truetype, by Humphrey; Donaldo of Mayhews, by Humphrey.

Bulls 6 months and under 1 year: Ricardo of Edgemoor, shown by Dupee; Chicona Brevet, by Gile; Volunteer of Edgemoor, Gile; Captain Sam, by Looney.

Bulls under 6 months: Bullion of Edgemoor, shown by Dupee; Chicona Brevet, by Gile; Volunteer of Edgemoor, by Dupee; Chicona Hannibal, by Gile; Captain Sam, by Looney.

Cows 5 years or over: Imp. Itchen Wood Sorrel, shown by Dupee; Imp. Itchen Moss Rose, by Dupee; Imp. Raymond's Queen of School Lane Farm, by Saylor; Imp. Julia's Maid of Beaulieu, by Saylor; Lady Chilmark II, by Gile.

Cows 4 years and under 5: Imp. Mildred II of Les Godaines, shown by Dupee; Ysobel Prince, by Looney; Berkshire Lassie, by Humphrey; May Rose of Haddon, by Gile; Golden Maid of Maple Lane, by Humphrey.

Cows 3 years and under 4: Florham Dame, shown by Dupee; Fairy of Alfalfa Farms, by Humphrey; Lucilla of Chicona, by Gile; Mary Dance of Riverside Farm, by Dupee; Calista, by Looney.

Cows 2 years and under 3: Marguerite of Pinehurst II, shown by Dupee; Imp. Donnington Goldie V.

(Continued on page 422.)

Notes From Cattle Exhibitors.

[Written for Pacific Rural Press.]

John L. Smith of Spokane selects cows which come nearest to making a square from hip joint to pin bones. With hip joints far forward, the bag is more likely to be carried well toward the front. He takes a milking machine outfit along on his show circuit.

W. Sim, in charge of the Hopland Stock Farm cattle, prefers Shorthorns because the cows provide milk enough on the range to keep calves in a thrifty fast-growing condition so they are heavy when taken to the feed lot and are all ready to begin gaining. A calf which has become thin for lack of milk requires as much as 20 days to restore its constitution ready to use feed for flesh making.

E. A. Stewart, owner of the Carnation Stock Farms of Wisconsin and Washington quit raising grade cows because with his hired help he could not make enough from milk alone. He started purebred Holsteins three years ago. A year later in taking invoice, he had to value the grade calves about $30 while the purebreds were worth $100 and up. That invoice showed him the profit in raising purebreds, of which he now has 500 registered.

C. W. Main of Corona had a Guernsey bull at the Fair with a well-nigh perfect back line and extraordinary vein development. He drew third prize. "The winners were good bulls."

Mrs. Ada Howie of Oconomowoc Wis., inherited a wornout farm which she hated. She rented it for cash and on shares, she had it run by a manager, she tried running it herself and moved off, she couldn't get a tenant and couldn't sell it so she moved back on, started with three Jerseys, hired a milk maid from the old country to care for them, asked the milkmaid the why of every detail of her work, now has 100 head of purebreds, recently sold a carload to Japan, can draw her check for whatever she wants to buy, loves the cows and the farm, and has restored its fertility.

In starting a dairy herd of a dozen animals for instance, C. H. Hulbert of the American Guernsey Cattle Club, says get a purebred bull, ten high grade cows and two purebreds. The purebreds will be studied in relation to the others. The breeder's judgment will be developed on the two so that he will be a better judge when he buys more.

Mr. Hughes of Oregon mortgaged his farm about three years ago to get a fine bull and two cows. This year he got grand championship for a bull at Oregon Fair and just about "cleaned up the show." The mortgage was worth while.

C. F. Reid of Portland had the grand champion Jersey bull at Oregon last year but took third prize at Panama-Pacific. The judge said he was perfect in every point but was undersized.

Secretary W. H. Caldwell of the American Guernsey Cattle Club says that the farm papers of the State could scarcely do a better work than to influence the formation of community breeders' associations, in which those having each breed would get together to advertise the community as a center for that breed. Innumerable other good results would also come from such an organization.

Hugh G. Van Pelt, Ayrshire judge from Iowa, remarks that eastern cities are shipping milk over 300 miles so that the butter producing area is being restricted as the population increases. Thus American markets are continually opening wider for western butter.

D. H. Looney of Jefferson, Oregon, emphasizes the greater value of gentle bulls.

Walter Dupee says he didn't dream there were so many fine animals on the Pacific Coast as he has seen at the cattle show.

How pedigree counts is shown by three Ayrshire heifers exhibited by J. W. Clise of Washington. Each has a record of over 10,000 pounds as 2-year-olds, with average tests over 4 per cent. Their dam made 9,000 pounds as a two-year-old and has recently produced 22,500 pounds in a year. The sire of two of them comes from a cow that made over 18,000 pounds as a mature cow.

R. R. Cartwright of Angel's Camp, Calaveras county, won first for dairy production and reserve senior champion on a Red Polled cow which has been on Fair circuit during the month since she calved and has averaged seven gallons of milk per day.



WILLOWMOOR ROBIN HOOD.
Reserve Champion Ayrshire; owned on Pacific Coast.

A new silo (the fifth on the place) is being erected at the beef cattle barn at the University Farm at Davis.

A Herd of 300 Registered Ayrshire cattle holding more

WORLD'S RECORDS

than any other Ayrshire Herd.

Willowmoor Ayrshires

The champion herd at the Panama-Pacific International Exposition

The Ayrshire in official and competitive tests has proved herself to be a most economical producer of milk and butter, yielding the largest possible amount for the food consumed, and at the least possible cost.

The Ayrshire is the Dairy Rustler, thriving and paying a profit on the least natural food supply, because she is a vigorous feeder, not at all dainty in her appetite, eating with a relish everything that comes in her way in the line of forage; good grass, poor grass or browse, all is food for the Ayrshire cow.

While the Ayrshire is strictly a dairy cow, she fattens so quickly when dry, and is so heavy in hind quarters and loin that she is a favorite with butchers.

This herd of three hundred head of registered Ayrshires holds first place as producers and in the show ring.

Peter Pan, one of our herd bulls, was Grand Champion at the Royal Agricultural Show, Great Britain, before imported, at the National Dairy Show, Chicago, at the Panama-Pacific International Exposition, San Francisco, and wherever shown on the Pacific Coast. Production records of his daughters place him at the head of producing Ayrshire bulls.

Stock sold on production records of dams; all tests 365 days.

Of eight world's records made by all Ayrshire breeders in America since 1900, this herd has made three.

Catalogue and prices upon application.

J. W. CLISE

Willowmoor Farms, Redmond, Washington (near Seattle)

Ayrshires for Profit

A top cross of Ayrshires on grades of any breed will greatly improve them, either for Dairy or Beef.

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Ayrshire Breeders Association

BRANDON, VERMONT.

Steybrae Ayrshires

The Largest and Best Herd of Ayrshires in the State.

Fine Young Bulls from Imported : Sires and Dams FOR SALE :

E. B. McFarland

2464 Broadway, San Francisco. FARM AT San Mateo, California.

Dairy Cattle Breeders Meet.

[Written for Pacific Rural Press.]

rsey Breeders' Meeting. — A la e, attentive, enthusiastic meeting of the California Jersey Cattle Cl on the World's Fair grounds Oc 20 was addressed by representativ of the American Jersey Cattle Cl and by breeders from eastern an coast States. At the business m ting which followed several new m bers and the officers for the co ing year were elected: R. E. W son of Modesto, president; J. G St l, vice-president; N. H. Locke of Lo eford, treasurer (in spite of his pr est that there had been a Locke on he treasury long enough). J. E. Th rp of Stockton was re-elected for th fifth term as secretary. John Ca ni and S. P. Kelley of Humboldt co nty and Guy Miller of Stanislaus co nty were elected directors. The tw holdover directors are Jos. Mill l and C. D. Conant of Stanislaus co nty. Official representation was n very well distributed geographica y, but comprises men who hold th confidence of the State.

ugh G. Van Pelt of Waterloo, Ia the Ayrshire judge, speaking came dead or maimed and none developed into good mature animals. The ration probably lacked some unknown necessary element for which the cows starved. So it is with alfalfa when fed alone, though possibly less disastrous. Alfalfa and corn silage make larger, stronger animals than almost any other feeds available.

Guernsey Breeders' Meeting.—If you can get away from a Guernsey banquet given under direction of Sec. W. H. Caldwell of the American Guernsey Cattle Club without becoming a Guernsey enthusiast, you are deaf and blind and ironclad besides being unable to eat, and to drink Guernsey milk. Otherwise you are sure to come away believing that the golden cow, brought to the Golden State, to be so splendidly shown beside the Golden Gate, really does give you streams of golden milk, from which to make golden nuggets of butter.

A most elegant repast was served with most cordial welcome and without charge, to about seventy-five Guernsey men, including those who care for the stock as well as the owners. Guernsey milk was bounteously furnished by Walter Dupee of San Diego. N. I. Bowditch of Mass., as toastmaster, stated that the Exposition show of coast cattle compared very favorably with the last National Show at Chicago. E. T. Gill of N. J., who recently lost his herd on account of foot and mouth disease, stated that the future of the Guernsey cow depends on three vital fundamentals: (1) selection of the best cows; (2) continuance of the efficient breeders' organization, and (3) integrity of the breeders

Mr. Gill says there is no reason why the Pacific Coast should not become the breeding center of America, for we already have some of the best blooded stock and we have the Guernsey Island climate.

Ex-President C. C. Hill of the American Guernsey Cattle Club spoke of the tremendous potential market in Australia and New Zealand for any surplus dairy stock we may have for decades to come.

W. W. Marsh of Iowa said he never saw cattle better fitted for showing in England or America than what he had seen at the Panama-Pacific. He spoke about the uniform excellence of all families of the breed, no one family ever holding grand championships long at a time. Three hundred pounds of butter per year was almost irrational in 1870—now 1200 pounds has been attained.



MILDRED,
First Prize Winner of Guernsey cows; California owned.

p ly on account of the unexpected ill ess of President M. D. Munn of th American Jersey Cattle Club, sa that the vitality of the club depends largely on the co-operation of w tern breeders, who are heartily u ed to join and take part in its m agement.

tegarding California's supreme o portunity for low cost of dairy p duction, he said that Iowa farmers in spite of the waste energy of c and man caused by cold winters, w e making money feeding alfalfa a a cost of $17 a ton laid down on t farm. They figure it worth a ut the same as bran which costs $ to $30 per ton. He spoke of the l stent South American demand f our first-class dairy animals a said that we can't supply it for l k of the stock, though U. S. is n king 22,000,000 cows. The forners don't want our second-grade a mals.

John A. Lee, director of the A. J. C C., said that the Club hopes soon t be giving premiums at local fairs a it now does only at State fairs. H predicted that the Jersey Club s ndard of excellence would soon s ing away from its too refined p nts toward the American type.

A. J. Glover of Hoards Dairyman (Wis.) called attention to the Wisc nsin Experiment Station where s entifically balanced rations, from t e wheat plant and grain, were fed t dairy cows for a generation or t o with disastrous results to the c ws and their offspring. The latter

SPLENDIDLY BRED HOLSTEIN BULLS AND YOUNG COWS

I am offering a few highly bred bulls ready for service. Three of these are sired by DUTCHLAND SIR PIETERTJE CREAMELLE, whose sire is by Pietertje Hengerveld Count De Kol, 99 A. R. O. daughters, with records up to 33.19 pounds butter in 7 days, and out of the famous cow Changeling, 29.33 pounds butter in 7 days.

His dam is Dutchland Creamelle, a 23-pound daughter of the former world's record cow, Creamelle Vale, who produced 29,591.4 pounds milk and 1155.85 pounds butter in one year.

No. 1—Estudillo Kalsora Segis Creamelle. A good, straight, young bull, more white than black, sired by Dutchland Sir Pietertje Creamelle, and out of Kalsora Segis Gert, 19.42 pounds butter in 7 days.
No. 2—Estudillo Ceone Tappan Creamelle. Same sire as No. 1, and out of Ceone Tappan 2nd, 21 pounds butter in 7 days.
No. 3—Dutchland Sir Pietertje Creamelle 2nd. Same sire as Nos. 1 and 2. Out of Kekke Pietertje Pontiac Princess, a good young cow that is just now going on official test.
No. 4—Estudillo Hengerveld De Kol Segis. His sire is Sir Pietertje Beets Segis 3d who is a grandson of King Segis out of a 19.50 pound daughter of King Korndyke. The dam of this young bull is Ethel Hengerveld of Eastbank 18.5 pounds butter in 7 days. This youngster is a good individual and nearly white in color.
I also have a few younger bulls, some out of A. R. O. dams, and others out of cows that will go on test as soon as they freshen.

I ALSO OFFER AT THIS TIME EIGHT GOOD YOUNG COWS AND HEIFERS AS FOLLOWS:

No. 1—Hill Pine Half Moon De Kol. A 4-year-old of good size and type.
No. 2—Hill Pine Full Moon De Kol. A typey young cow, good, straight lines and carrying an excellent udder.
No. 3—Hill Pine Dolly Hox Car. A deep bodied 4-year-old of high individual excellence, and with a 7-day A. R. O. record of 18 pounds butter.
No. 4—Kalsora Korndyke Posch. Not a large cow, but of very good type. She has a 7-day A. R. O. record of 17.29 pounds butter, is out of a 19-pound 2-year-old, and she herself has a 11.50 pound 2-year-old daughter.
No. 5—Estudillo Korndyke Segis. A 2-year-old daughter of No. 3, and sired by a grandson of King Segis. A good typey heifer nearly white in color.
No. 6—Estudillo Marie Clothilde De Witt. She has a 7-day A. R. O record of 13.5 pounds butter as a 2-year-old. She is sired by a grandson of King Segis, and is out of a splendid dam with a 7-day record of 20.69 pounds butter, 30 day record of 85.75 pounds butter, and whose sire is a son of King of the Pontiacs. This is as good breeding as could be wished.
No. 7—Maggie Beets De Kol 2nd. A good, big, young cow of large capacity. Her dam has a 7-day A. R. O. record of 18.07 pounds butter.
No. 8—Bonnie Pontiac. Another young cow of good type and size. She is sired by a son of King of the Pontiacs.

INTERESTED PARTIES ARE INVITED TO CALL AND SEE THIS STOCK, OR WRITE FOR PRICES AND ANY FURTHER INFORMATION.

F. Stenzel **San Lorenzo, California**

Colantha Sir Pontiac Aaggie

Heads the MOORLAND FARM HERD of Registered Holsteins

His sire's dam is Colantha 4th's Johanna, 35 lbs. His dam's dam is Aaggie Cornucopia Pauline. 34 lbs. His oldest daughter holds the highest three-year-old record in the State, 25 lbs. butter in seven days, 103 .bs. in thirty days Best day's milk over 85 lbs. His 17 daughters averaged $563 apiece at recent Hanford auction.
Several cows and heifers in calf to this great bull are now being offered for sale at reasonable prices.
Write for price and pedigree of a young son of his out of a 22.65-lb. cow.
You know now is the time to buy stock of this breeding, for prices are bound to go up, as more of his daughters are tested and more of his sons get a chance. He has been proven a producer of good stock, and the above prices for his heifers prove he is popular. What more do you want? Write

K. W. ABBOTT, **Moorland Farm, Milpitas, Cal.**

Panama-Pacific Dairy Holsteins



Panama-Pacific PONTIAC CHIEF.

At the head of our herd of choice females is a grandson of Pontiac Korndyke, out of a cow whose ten nearest dams average 2538 lbs. butter in seven days. His calves are showing splendid type, and this, combined with the very high producing blood which he carries, makes his sons especially desirable as Dairy Sires. Write us for prices, or come and see our herd.

LAURA FRAKES

Sutter Creek **Amador Co., Cal.**

PANAMA-PACIFIC EXPOSITION CATTLE AWARDS.

(Continued from page 419.)

by Dupee; Honey Bunch, by Looney; Walburga, by Humphrey; Algona of Chicona, by Gile.

Heifers 18 months and under 2 years: Imp. Hayes Princess Mary, shown by Dupee; Henrietta of Mayhews, by Humphrey; Imp. Fancy of Vivier II, by Dupee; Saylor's Pansy Sequel, by Saylor; Bessie B., by Looney.

Heifers 1 year and under 18 months: Polly of Chicona, shown by Gile; Evelyn of Edgemoor, by Dupee; Violet's Corona's Lass, by Annie S. Lathrop; Rosamond of Chicona, by Gile; Caprice of Edgemoor, by Dupee.

Heifers 6 months and under 12: Veda of Chicona, shown by Gile; Joseph's Pride of Chicona, by Gile; Imp. Sweetheart of Edgemoor, by Dupee; Saylor's Masher's Ruby, by Saylor; Imp. Bohemian Girl of Edgemoor, by Dupee.

Heifers under 6 months: Dainty Lily, shown by Looney; Imp. Storm King's Petite, by Dupee; Gaiety of Chicona, by Gile; Rena of Chicona, by Gile; Mayhews Sally, by Humphrey.

Cows with official yearly record begun at 5 years or over: Imp. Itchen Moss Rose, shown by Dupee; Hazel's Girl of Chicona, by Gile; Lady Chilmark II, by Gile.

Guernsey graded herd: 1st, Dupee; 2nd, Gile; 3rd Looney; 4th, Saylor; 5th, Humphrey.

Guernsey young herd: 1st, Gile; 2nd, Looney; 3rd, Saylor; 4th, Lathrop.

Guernsey calf herd: 1st, Gile; 2nd, Dupee; 3rd, Looney.

Produce of dam: Produce of Caprice of Haddon, shown by Dupee; 2nd, Looney; 3rd, Looney; 4th, Gile; 5th, University of California.

Get of Sire: 1st, Gile; 2nd, Looney; 3rd, Saylor; 4th, Looney; 5th, Gile.

Advanced Registry cow: 1st, Imp. Itchen Wood Sorrel, shown by Dupee; Hazel's Girl of Chicona, by Gile; Algoma of Haddon, by Gile.

Dairy herd: 1st, Dupee; 2nd, Looney; 3rd, Saylor; 4th Humphrey; 5th, Gile.

Senior and Grand Champion Bull: Imp. Itchen May King, shown by Dupee.

Reserve Senior Champion Bull: Yeoman's King, by Albertson.

Junior Champion Bull: Imp. Ricardo of Edgemoor, shown by Dupee.

Reserve Junior Champion Bull: Fermain's Iowa Boy of the Oaks, shown by Looney.

Senior and Grand Champion Cow: Imp. Itchen Wood Sorrel, shown by Dupee.

Reserve Senior Champion Cow: Marguerite of Pinehurst, shown by Dupee.

Junior Champion Cow: Veda of Chicona, shown by Gile.

Reserve Junior Champion Cow: Polly of Chicona, shown by Gile.

Holsteins.—The Holstein awards were placed in the followlng order by W. H. Standish, of Lyons, Ohio:

Bulls 3 years and over: Hazelwood Ormsby Posch, shown by John L. Smith; Hazelwood Sir Ormsby, by Smith; Ollie Johanna Sir Fayne, by Carnation Stock Farms; Dutchland Governor Sir Colanthia, by Carnation Stock Farms; North Star Korndyke Sir Beets, by Wm. Bishop.

Bulls 2 years and under 3: Mitchell Foakes, shown by Smith; Sir Chimacum Wayne, by Bishop; Panama Pacific Pontiac Frakes, by Laura J. Frakes and Bros.; Panama-Pacific Pontiac Chief, by Frakes.

Bulls 1 year and under 2: Hazelwood Band Master, shown by Smith; Hazelwood Segis, by Smith; Riverview Gerben Hengerveld, by Carnation Stock Farms; Prince Rag Apple Canary, by Carnation Stock Farms; Campus Pontiac Dude, by Oregon Agr. College.

Bull calves 6 months and under 12; Sir Fayne Dot Cornucopia, shown by Bishop; Hazelwood Mercedes Ormsby, by Smith; California La Polka Prince, by Univ. of Cal.; California Prex (twin), by Univ. of Cal.; One entry, Smith.

Bull calves under 6 months: Sir Chimacum Wayne Pontiac, shown by Bishop; Governor Hengerveld Colantha, by Carnation Stock Farms; Hazelwood Ormsby Korndyke, by Smith; Sir Chimacum Wayne Cornucopia, by Bishop.

Cows 5 years and over: Bonnie Ormsby Lass, shown by Bishop; Bracelet Alta Posch, by Smith; Hazelwood Cinderella Butter Girl, by Smith; De Kol Alban Posch, by Smith; Josie Veederzaam, by Carnation Stock Farms.

Cows 4 years and under 5: Hazelwood Aaggie Hartog, shown by Smith; Loo Belle, by Oregon Agr. College; Lady Violet Fayne, by Carnation Stock Farms; Hazelwood Mercedes Butter Girl, by Smith.

Cows 3 years and under 4: Cascade Marie, shown by Bishop; Hazelwood Ormsby Posch, by Bishop; Cascade Lizzie, by Carnation Stock Farms; Nana Kaan Sela, by Bishop; Hazelwood Clothilde Ormsby De Kol, by Smith.

Heifers 2 years and under 3: Hazelwood Bracelet Pauline, shown by Smith; Hazelwood Alban Ormsby, by Smith; Nena Newman Cornucopia, by Bishop; Hazelwood Ormsby Mechthilde, by Smith.

Heifers 18 months and under 2 years: Riverview Chloe Mechthilde, shown by Bishop; Belle Mooie of Twin Lakes Farm, by Carnation Stock Farms; Leda Hartog De Kol 2nd, by Carnation Stock Farms; Hazelwood Heilo Ormsby, by Smith; Jessie of Hazelwood, by Smith.

Heifers 1 year and under 18 months: Winifred Hengerveld De Kol 2nd, shown by Carnation Stock Farms Chimacum Veeman Pontiac, by Bishop; Hazelwood Ormsby Mechthilde Posch, by Smith; Bonnie Ormsby Lass II, by Bishop; Cantate Domina Sir Skylark III, by Carnation Stock Farms.

Heifers 6 months and under 12: Iowana Colantha Constant, shown by Carnation Stock Farms; Forward Clementine Bessie 3rd, by Carnation Stock Farms; Hazelwood Homestead Bracelet, by Smith; Colantha Larky De Kol, by Carnation Stock Farms; Hazelwood Bracelet Alta Posch, by Smith.

Heifers under 6 months: Entry, shown by Carnation Stock Farms; Chimacum Wayne Gettie, by Bishop; Bonnie Ormsby Lass 3rd, by Bishop; Hazelwood Ormsby Korndyke De Kol, by Smith; Chimacum Wayne Jennie, by Bishop.

Cow with official yearly record begun before 5 years of age: Loo Belle, shown by Oregon Agr. College.

Graded herd: 1st, shown by Bishop; 2nd, by Smith; 3rd, by Carnation Stock Farms.

Breeders young herd: 1st, shown by Carnation Stock Farms; 2nd, Smith; 3rd by Bishop.

Calf herd: 1st, shown by Carnation Stock Farms; 2nd, by Smith; 3rd, by Bishop.

Produce of dam: 1st, shown by Univ. of California; 2nd, by Bishop; 3rd, by Carnation Stock Farms; 4th, by Smith.

Get of sire: 1st, shown by Carnation Stock Farms; 2nd, by Bishop; 3rd, by Bishop; 4th and 5th, by Smith.

Dairy herd: Bishop; Smith; Carnation Stock Farms; Smith.

Senior Champion Bull: Hazelwood Ormsby Posch, shown by Smith.

Reserve Champion Bull: Hazelwood Sir Ormsby, shown by Smith.

Junior Champion Bull: Sir Fayne Dot Cornucopia, shown by Bishop.

Reserve Junior Champion Bull: Governor Hengerveld Colantha, shown by Carnation Stock Farms.

Grand Champion Bull: Hazelwood Ormsby Posch, shown by Smith.

Reserve Grand Champion Bull: Hazelwood Sir Ormsby, shown by Smith.

Senior Champion Cow: Bonnie Ormsby Lass, shown by Bishop.

Reserve Senior Champion Cow: Aaggie Nena Cornucopia, shown by Bishop.

Junior Champion Cow: Riverview Chloe Mechthilde, shown by Bishop.

Reserve Junior Champion Cow: Entry shown by Carnation Stock Farms.

Grand Champion Cow: Bonnie Ormsby Lass, shown by Bishop.

Ayrshires.—Hugh Van Pelt of Waterloo, Iowa, placed the awards in

Puget Sound Herd

250 REGISTERED HOLSTEINS

Champion Herd at P. P. I. E.

OUR HERD, WITH 23 ENTRIES, RECEIVED A MAJORITY OF THE CHAMPIONSHIPS AND HALF OF ALL THE FIRST PRIZES AWARDED TO HOLSTEIN CATTLE AT THE EXPOSITION.



Bonnie Ormsby Lass 139166,
Senior and Grand Champion Cow

A. R. O. record at 3 years:
Butter, 7 days..... 25.0
Milk, 7 days, ...597.0



Riverview Bracelet Chloe 286737,
Junior Champion Heifer,
a daughter of the first prize yearling heifer at the National Dairy Show, Chicago, 1912.



Aggie Nena Cornucopia 223970,
Reserve Senior Champion Cow.

A. R. O. record at 2 years:
Butter, 7 days..... 24.06
Butter, 7 days. 687.1
Butter, 30 days 95.3
Milk, 30 days. 2733.3
Milk, 1 day..... 105.
A world's milk record.



Cascade Marie 19476,
First Prize 3 yr. and under 4 yrs

A. R. O. record at 2 yrs. 6 mo.:
Butter, 7 days..... 21.5
Milk, 7 days..... 483.3
8 months after calving:
Butter, 7 days..... 17.4
Milk, 7 days, ...413.

Our winnings included: Grand Champion Cow, Senior Champion Cow, Reserve Senior Champion Cow, Junior Champion Heifer, Junior Champion Bull, First Prize Aged Herd.

We have for sale a few fine young animals, both sexes, out of A. R. O. dams with high records.

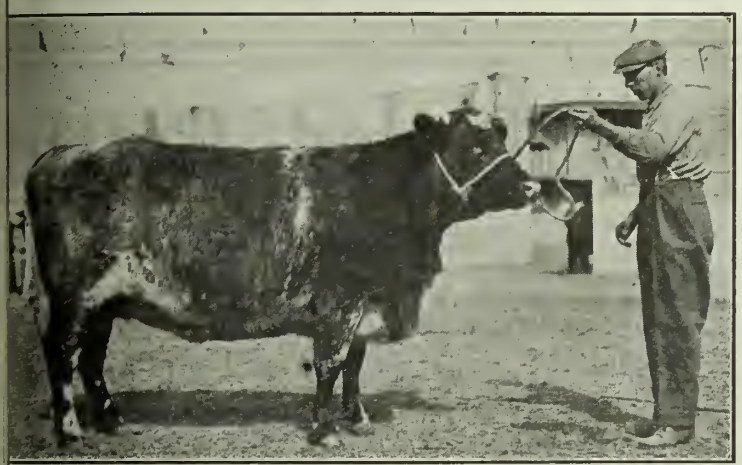
If interested write us

Chimacum Farms

WM. BISHOP, PROPRIETOR.

Chimacum, Washington

yrshire division in the follow-
rder:
lls 3 years old or over: My
ıan Peter Pan, shown by J. W.
Prince of M. B., by Walter J.
s; Imp. Lessnessock Lieuten-
y Domes; Springbrook Rob
by E. B. McFarland.
lls 2 years and under 3: Wil-
oor Robin Hood 31, shown by
Willowmoor Robin Hood 32,
lise; Willowmoor Robin Hood
y Clise; Anna Boy of C. H., by
s.
lls 1 year and under 2: Wil-
oor Peter Pan 26, shown by
Triune's Lad of C. H. A. F.,
mes; Rob Roy of Steybrae, by
rland.
ll calves 6 months and under
Nellie's Lad of C. H. A. F.,
by Domes; Lessnessock 2nd of
rae, by McFarland; Moonstone
f Steybrae, by McFarland; Col-
Blonde Duke, by Oregon Agri-
ral College; Willowmoor Robin
18 Q., by Clise.
ll calves under 6 months:
's Lad of C. H. A. F., shown
mes; Lessnessock 2nd of Stey-
by McFarland; Moonstone 2nd
eybrae, by McFarland; College
le Duke, by Oregon Agr. Col-
Willowmoor Robin Hood 18th
y Clise.



SNOW GIRL'S QUEEN,
First Prize Shorthorn, two and under three; California owned.

ws 5 years old or over: Old
Graney Queen 4th, shown by Clise;
Lily of Willowmoor, by Clise; Lane
Tribe 6th, by Clise; Willowmoor
Hally Grl, by Clise; Southwick
Kirby 7th, by Clise.
ws 4 years and under 5: Wil-
oor White Lola 3rd, shown by
Clise; Willowmoor Nan, by Clise;
Willowmoor Jean Duglas, by Clise;
Willowmoor Barleith Snowdrop, by
Clise; Jack's Pineio, by Domes.
ws 3 years and under 4: Wil-
oor Vesta 4th, shown by Clise;
Willowmoor Lady Jane, by Clise;
Willowmoor Lily 4th, by Clise; Wil-
oor White Pride B., by Oregon
Agr. College; Lena Triune, by
Domes.
ifers 2 years and under 3:
Willowmoor Lily 5th, shown by
Clise; Willowmoor Lily 2nd, by
Clise; Willowmoor Glespin Queen B.,
by Clise; Willowmoor Gradrum
Snowdrop B., by Clise; Melva of
C. H. A. F., by Domes.
ifers 18 months and under 2
years: Willowmoor Woodbine 2nd,
shown by Clise; Willowmoor Francis,
by Clise; Willowmoor Vesta 3rd, by
Clise; Willowmoor June, by Clise;
Willowmoor Buchesiic Cecilia, by
McFarland.
ifers 1 year and under 18
months: Willowmoor Pansy, shown
by Clise; Willowmoor Susie, by
Clise; Daisy Moonstone, by Domes;
Willowmoor Violet, by Clise; Pride's
College Queen, by Oregon Agr. Col-
lege.
ifers 6 months and under 12:
Willowmoor Lucy, shown by Clise;
Willowmoor Verbina, by Clise; Col-
lege Blonde Lassie, by Oregon Agr.
College; Edna of Steybrae, by
McFarland.
ifers under 6 months: Prin-
cess Happy of C. H. A. F., shown by
Domes; Willowmoor Miss Mac, by
Clise; Willowmoor Bernice, by
Clise; College Netherell Brownie, by
Oregon Agr. College; Jean of Stey-
brae by McFarland.
ws with official yearly record
begun at 5 years or over: Lily of Willowmoor, shown by Clise; Old Graitney Queen 4th, by Clise; Lane Tribbie 6th, by Clise.

Cow with official yearly record begun under 5 years of age: Lily of Willowmoor, shown by Clise; Willowmoor Vesta 4th, by Clise; Willowmoor Lady Jane, by Clise; Willowmoor Lily 4th, by Clise; Willowmoor White Pride B., Oregon Agr. College.

Graded Ayrshire herd of one bull two years or over, 2 heifers 1 year and under 2, 2 heifers under 1 year, females to have been bred by exhibitor: 1st and 2nd, Clise; 3rd and 4th, Domes; 5th, McFarland.

Breeders' young herd: 1st, Clise; 2nd, McFarland; 3rd, Domes.

Breeders calf herd: 1st, Clise; 2nd, McFarland; 3rd, Domes; 4th, Oregon Agr. College.

Produce of dam: 1st, Clise; 2nd, Clise; 3rd Domes; 4th McFarland; 5th, McFarland.

Get of sire: 1st, 2nd, 3rd, and 4th, shown by Clise; 5th, by McFarland.

Advanced registry cows shown with 2 of progeny: 1st and 2nd, shown by Clise; 3rd, by Oregon Agr. College; 4th, Domes.

Dairy herd: 1st and 2nd, shown by Clise; 3rd by Domes.

Senior Champion Bull: My Beuchan Peter Pan, shown by Clise.

Junior Champion Bull: Willowmoor Peter Pan 26, shown by Clise.

Grand Champion Bull: My Beuchan Peter Pan, shown by Clise.

Senior Champion Cow: Old Gaiety Queen 4th, shown by Clise.

Junior Champion Cow: Willowmoor Woodbine 2nd, shown by Clise.

Grand Champion Cow: Old Gaiety Queen 4th, shown by Clise.

Red Polled.—Judged by Elliott Davis, Lincoln, Neb.

Bulls 3 years and over: Lordly, shown by F. H. Porter; Crobat, by R. R. Cartwright.

Bulls 2 years and under 3: Dandy Heil, shown by Cartwright; Rock, by Porter.

Senior yearling bull: Archibald, shown by Cartwright.

Junior bull calves: Bohlett, shown by Cartwright; Jester, by Porter; Joiner 4th, by Porter.

Cows 3 years and over: Pansy, shown by Porter; Laura Davyson, by Cartwright; Hortena 10th, by Porter.

Cows 2 years and under 3: Hortena 21st, shown by Porter; Pansy 3rd, by Porter; Molly Davyson, by Cartwright; Baby Reene, by Cartwright.

Senior yearling heifers: Maple Leaf, shown by Porter; Reubens Ethel, by Cartwright.

Junior yearling heifers: Mayette, shown by Porter; Beula Reene, by Cartwright; Lulu Davyson, by Cartwright.

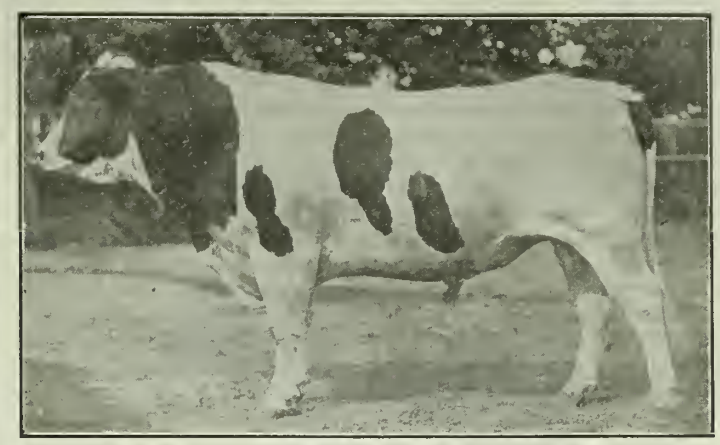
Senior heifer calves: Tacoma, shown by Porter; Fannie Forester, by Cartwright.

Junior heifer calves: Hortenetta 2nd, shown by Porter; Panama Queen, by Cartwright; Mayette 4th, by Porter.

Graded herd: 1st, Porter; 2nd, Cartwright; 3rd, Porter.

Breeders young herd: 1st, Porter; 2nd, Cartwright.

(Continued on page 427.)



Prince Alcartra Korndyke, 88318

Sire:

KORNDYKE QUEEN DE KOL'S PRINCE 36025, who has 83 A. R. O. daughters, including Winana De Kol Korndyke with 31.22 of butter and Lunde Korndyke 30.82 of butter, and a yearly record of 1090.9 butter and 26192.7 milk. His dam Korndyke Queen De Kol with 24.42 of butter is the best daughter of the great old cow, Belle Korndyke.

Dam:

TILLY ALCARTRA 123439. The World's greatest milk producer from one to three years. In 7 days, butter 32.23 and milk 783.70; 30 days, butter 126.71 and milk 3201.86; 365 days, butter 1189.04 and milk 30451.4. World's yearly milk record.



Segis Cream Cup Pontiac, 137416

Sire:

SEGIS PONTIAC DE KOL BURKE 97472. A son of King Segis Pontiac Emperor and Riverside Sadie De Kol Burke, the holder of the world's milk records for seven days, thirty days and two years. She is sired by De Kol Burke, who has seven 30-lb. daughters.

Dam:

CREAM CUP 106464. One of the very best daughters of Ignaro De Kol. In seven days butter 24.75 and milk 572.9. In 365 days at four and one-half years butter 877.34 and milk 19,993.6. A sister to Aralia De Kol with 30.14 butter in seven days and 1142.32 butter and 28.090 of milk in 365 days at twelve and one-half years of age.

PRINCE ALCARTRA KORNDYKE is being mated to daughters of: Beryl Wayne Korndyke of Riverside, Juliana King of Riverside, Prince Gelsche Walker, Jetze Zwartbak, King Segis Pontiac Emperor, Romeo Aaggie Acme of Riverside, Johana McKinley Segis and Aaggie Cornucopia Johana Lad.

SEGIS CREAM CUP PONTIAC will be mated to the daughters of PRINCE ALCARTRA KORNDYKE.

At the present time we have a few young bull calves sired by PRINCE ALCARTRA KORNDYKE, and out of A. R. O. Cows

FOR PRICES AND FURTHER INFORMATION CALL OR WRITE,

The J. S. Gibson Company

BOX 97,

Williams, California

The Name Gibson Insures the Quality

Why California for Livestock?

(Continued from page 417.)

ural adaptability of California for the production of live stock—for it must be claimed that the animals multiplied themseives without much systematic effort on the part of the padres, who were not experts in horn, hoof and tail—except those of the Evil One. And the figures of their live stock possessions in 1835 merely represented the survivors of much greater multiplication which went to feed thousands of hungry Indians and to supply the demand for hides and tallow to be traded for gewgaws with coasting vessels.

The Mexican Rancheros.—Previous to the secularization, and much more rapidly during the decade and a half of Mexican administration of California affairs which followed, there were herds established on grants to individuals of land away from the areas belonging to the missions. Most of the area of the state, at that time thought to be desirable, was thus apportioned to adventurers, good, bad and indifferent. Their wealth was cattle and their thrones their saddles. Their products were hides and tallow, their lives most picturesque and romantic and their live stock husbandry most primitive. Their animals were of old Spanish types, filtered through Mexico and not improved thereby. But they were most hardy, productive and agile—agility being counted a very high quality both in bull and horse, for obvious reasons. This hardiness and agility, and productiveness under very wild husbandry, was very desirable also from the point of view of preparedness in California. Under the system of free, fenceless pasturage which prevailed, there were perhaps as many animals roaming free as were ever brought to rodeo, and all valley and foothill regions in the state were teeming with wild cattle and wild horses, herded only by grizzlies and mountain lions. The state was a vast mine of meat. The gold-seeking throng of 1849 found California provisioned for them. Thus the natural suitability to the growth of live stock not only demonstrated itself but placed itself in the foundation of the development of the State.

The American Occupation. — The abundance of animals, of the kinds and characters indicated, was accepted by the early American settlers not only as a demonstration of the pastoral suitability of the state but as foundation stock for animal improvement. Enterprise sprang up with surprising suddenness, and the two terms "American cattle" and "Spanish cattle" became clearly understood early in the fifties. They told the whole story of the old and the new in California animal husbandry. The American never touched a Spanish animal except to escape from its obvious defects. Pedigreed animals, horses, cattle, sheep and swine, were fairly rushed into the state by the pioneers and were shown at State Fairs which began in 1853. At the State Fair in 1856 in San Jose the president, E. L. Beard, said this: "We raise a very large amount of stock and no state has greater natural advantages for the cheap and easy production of stock. I see also, in the fact that large sums are beginning to be expended by some of our most enterprising citizens for the introduction of the improved breeds, a token that we shall shortly take that precedence to which our soil and climate entitle us." It will be interesting some day to describe the Marathon by which the various breeds reached their opportunities in California. It only took about a decade to fill the state with grades and thus establish the common stock upon which later achievements in improvement have been based. Writing in 1868, T. F. Cronise said: "The wild cattle of the Mexicans are poor, long-horned and lank, but they cross well with imported stock, carrying the fine points of the latter and the endurance of the former. Great attention has been paid to crossing and very soon the pure native stock will be extinct, for it is unprofitable. * * * The Mexican mustang is capital under the saddle and very quick in his movements. No horse excels him in keeping up a steady liveliness. He will subsist on scanty food and bear you sixty miles a day, his gait being always a gallop, but the American and half-breed horses are fast supplanting the Mexican horse. The imported horse improves by the change of climate and racers become longer-winded. Mares foal before they are three years old in California and cows calve before they are two years old. Cutting up the Spanish grants and restriction on free ranging is working notable changes and increasing the cost of cattle raising, but it is improving stock by inducing more attention and in the end will be more profitable."

A Constantly Advancing Business.—Thus nearly half a century ago the American period of animal husbandry in California was entered upon and its attainments prophesied. During this half century achievements have been attained which can only be glanced at, though worth a volume's record. California has at some point in that period stood first in the production of wool, first in the breeding of speed in horses, first in world's records for cow-production, first in production of a carload of baby-beef and has doubtless done other honorable things which we do not at the moment remember. Meantime the state has marched steadily forward in all lines of live stock except sheep, and in sheep, while retiring for a time at least, we have furnished the foundation stock for other states which have recently risen to higher place on a range basis, which is no longer largely possible with our advancing husbandry plan. Still, what has been lost in one line of animal industry has, from decade to decade, been made up by the gain in another line so that the whole course has been forward, though varying greatly in rate of increase, as the following statement of the total value of all farm animals shows:

1910	$127,599,938
1900	67,303,325
1890	65,575,427
1880	41,498,417
1870	40,306,300
1860	35,585,017
1850	3,351,058

It is notable that the great increases came during the first and the last full-decades of our history. In

Hazelwood Farms
Holsteins

At the Panama-Pacific International Exposition, our herd consisting of

39 Head Won 44 Ribbons
including
Senior and Grand Champion Bull

A few young Heifers for sale

John L. Smith, Prop., Spokane, Wash.
Barn 7, Panama-Pacific International Exposition, till November 1st.

Red Polled Cattle

FOR EITHER BEEF OR DAIRY.

A few fine Bulls for sale from Prize-winners at State Fair and Panama-Pacific International Exposition.

R. R. Cartwright & Sons
Angels Camp, California.

GRAPEWILD FARM GUERNSEYS



HERD BULL
DON ADONIS
of Linda Vista

whose five nearest dams have an average A. R. record of 714 lbs. butter fat.

We have a number of young bulls from this Sire, up to 20 months, for sale.

As we intend to move our herd from Mayhews to new and larger quarters at Escalon in the near future, we are placing attractive prices on these animals.

ADDRESS
A. B. HUMPHREY, Prop.
Mayhews, Sacramento Co., Cal.

Ask Your Dealer For
El Dorado Cocoanut Oil Cake
for Milk Cows and Chickens and Young Pigs and Hogs. Cheapest food in the market today. If your dealer doesn't carry it, address
EL DORADO OIL WORKS,
149 California Street, San Francisco

RANCHO RUBIUS DUROCS
Gold Medals at State Fair, 1914. Also Sweepstakes on sow; four firsts and four seconds at Fresno, 1915.
March and April boars and gilts for sale.
ELMER LAMB, CERES, CAL.

ay the attitude of the present
ration is like that of the Argo-
s. It is the result of awaken-
to a great opportunity which,
he case of the present genera-
, began to be descried early in
new century, when the fruit in-
ry spent its first great boom-
st and began upon an enduring
cture of production. As to the
tion of these two grand divisions
alifornia agriculture, it may be
that as the great drive on fruit,
ch has resulted in an annual pro-
ion with selling value of a hun-
l millions, did not cause a back-
d movement in animal hus-
dry so the present great drive
nimals need not be expected to
ess the fruit industry, for the
tions are reciprocally beneficial.

**pecial Features of California's
ptation.**—It is pleasant to the
er to run along at this roughly
criptive gait, but the pages of
issue are limited. This matter
pecial adaptation is full of in-
sting details, but the category
t be resorted to:

—The absence of snow and
nd-freezing, except on high
ntain valleys or plateaux, ren-
light and cheap shelter sufficient.
s, in fact, frequently dispensed
altogether, but that is neither
ciful nor profitable—in view of
little it costs to furnish it.

—The mild climate gives a long
zing season and the dry summer
s "dry feed"—which is really
d nutritious hay, cured as it
ds. One who has land enough,
uding low and high, and pastures
in its best condition for green
dry feed, can carry all except
y stock and hogs, without grow-
feeding-crops and siloing, but he
e gets the full benefit of the cli-
e who provides alfalfa or other
ers, grain and roots, to save his
tures from being gnawed and
mped when too wet, and saves his
k from all setbacks by even
rt spells of hunger. A certain
unt of farming should always
associated with wild pasturing.
s is often dispensed with, but it is
her merciful nor profitable in the
hest degree.

—The mild climate not only
s a long growing season to pas-
age plants but multiplies the
nber of plants which sustain the
ture. Speaking broadly, Califor-
pastures include all the grazing
nts, and California fields include
the forage plants, which can be
wn in Europe from the reclaimed
ds of Holland to the alpine val-
s of Switzerland. California hays,
ashed by rain and favored by
air, have an average of concen-
ed richness and wholesomeness
nown to cured forage in humid
ntries. In old trotting days
ifornia stables went to eastern
uits attended by train-loads of
r own munitions. Their owners
ld not trust them to live upon
country traversed.

—The mild climate, free from
backs due to extreme cold
pled with the character of win-
feeding, gives all well-cared-for
nals surprisingly quick growth
early maturity. In old sheep-
s strangers always over-guessed
age of sheep by their teeth, be-
helped to the error by their
. In a way this is true of all
nals and it means great gain of
ght when weight is most cheaply
ined: early sale of increase and
quick turn of money; early maternity and, with some animals, more gestations in a year—profitably because temperature, and, with proper arrangements, feed is always favorable for parturition and lactation.

5—California soils by variety in character, self-drainage and retentiveness, richness and productiveness, match the capabilities of favoring climate in promoting wild growth and give the enterprising grower wide field for choosing feeding plants according to his conditions and requirements.

6—Irrigation, whether it be from ranch brooks or wells or from an irrigation system, gives a grower mastery over variations in time and amount of rainfall or make him practically independent of rainfall in regions which were formerly called "deserts" and are now among our leading stock-growing districts.

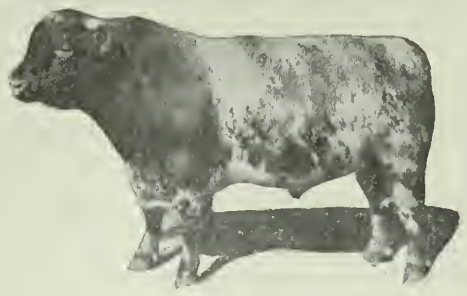
7—Apart from natural adaptations, some of which we have noted, there is the group of California's commercial adaptations: the growth of the state in masterful population; the fact that Californians are good-livers, able to gratify their tastes, and free-investors in enterprises which command their interest; the availability of transportation by rail and wave to all parts of the world; position upon the highway back and forth between the world's most rapidly developing regions; the California spirit and point of view which give each Californian breadth and energy according to his capacity for seeing large and still seeing true.

Personal Requirements for Stock Industries.—To be a successful stockman, a man should have land, capital, knowledge of the business, faith in it, positive liking for it and a heart in the right place. To us there is no sadder farm picture than a stockman scant of land. There can be no exact prescription of amounts of land, for different animals require different areas, lands vary in food-productiveness and in acre-valuation. We should get land for stock purposes as Dido did the site for Carthage—all that we can stretch a hide around by cutting it into whip-lashes—and then some. We should do, as the pioneers of all countries have done, go far enough away to get rich flats and warm slopes and running brooks and shady trees. We should strive to help occupy the state by going beyond the thickly settled areas and this can now be done with less social sacrifice than ever before, because a cheap automobile kills distance. People make us weary by asking how many cows, pigs, sheep and fowls they can keep on twenty acres of land! The computations which they bring us for approval, from their own ingenuity or from land vendors, will sometimes require the mounting of a sheep on the cow's back, a pig on the sheep, the rooster on the back of the pig—the whole thing a "tower of jewels," for they generally wish to put on more cows than the land would carry, to begin with.

But the man who has too little land for stock is closely matched by the man who has too little money. Animal production is beyond all other farming, perhaps, in its demand for adequate investment. It is quicker than others in return, if all goes well, but there must not only be investment but working capital from the start. To leave too

HILLCREST STOCK FARM

Thornton S. Glide, Prop.
Davis, Cal.



KING LANCASTER,
Son of King Edward, Grand Champion Bull California State Fair 1909, 1910, 1911. The only Bull 3 times Grand Champion at State Fair.

Shorthorn Cattle
Shropshire and Merino Sheep

My range-raised bulls this year are the finest lot I have ever had.

THEY HAVE GRAND CHAMPIONS BEHIND THEM.

For Sale, single or carload lots.

Lakenvelder Stock Ranch

Route 2, Ceres, Cal.

STRADER HERD
OF
Dutch Belted Cattle
—AND—
Hampshire Swine

Young Stock for sale at all times. Exhibit at Barn 3, Panama-Pacific Exposition.

Atla Vista Herd

OF REGISTERED
GUERNSEYS

Our herd of Guernseys on exhibition at the

Dairy Cattle Show



Violets Pride of Iowa, Reg.

PANAMA-PACIFIC INTERNATIONAL EXPOSITION,
FROM OCTOBER 18 TO NOVEMBER 1, 1915.

includes a fine lot of young Bulls and Heifers for sale at reasonable prices. Here's a splendid opportunity to secure a foundation in the very best blood lines of the best Dairy breed.

Be sure to see the stock at the Exposition.

ANNA S. LATHROP, Prop.
Stanford University, California.

much still to pay on the land, to buy stock with borrowed money at rates of interest which now have to be paid, not to have enough cash to buy your breakfast when you need a new bull—this is just what General Sherman described as war. Of course if you have youth, force and knowledge of the business and a good, contriving wife who can make a trousseau out of a grain-sack, you can build up in the stock business and before you die own all the land that joins you. But we do not need to tell you how to do it, because you know what that struggle means. As a rule your class does not ask us how to get in: our clients usually wish to float in on an aeroplane, and they frighten us nearly to death by the financial loopings they propose to do.

But perhaps the prime requisite for success in stock enterprise is the heart a man has in it and for it. Domestic animals are our brothers; lacking our vision and our sinfulness also. A man who does not love them has no business trying to figure profit from them, unless his enterprise is so large that he needs to hire stock-lovers for personal contact with the animals—and then he must watch the hirelings. A heartless man will make a stallion vicious, a bull cross, a cow timid and will lose the respect of a hog—because of too close resemblance. All the writers of stock books have good chapters enforcing and amplifying the principle: "A merciful man is merciful to his beast." Such exhortations are not mere sentiment; they are hard business wisdom. Guilford, in his "California Hog Book," most truly says: "A man or woman must have an inborn love for live stock and a nature that is in harmony and in sympathy with animals or he will never attain all that is possible in the hog business or in any other branch of live stock industry"—and the whole book is built upon the principles of knowing and loving.

General Requirements. — If the stock industries of California attain the expansion toward which they are now clearly heading, at least two fundamental requirements must be met to insure enduring success.

Provision must be made for manufacture of meat products as well as for growing meat. The considerable amounts of packed and cured meats now brought into the state from a distance can never be wholly displaced unless California brands can be built up to win greater public favor. These brands must be popularized by artistic style and acceptability of containers and they must be advertised with every honest claim that can be made for California superiority and the product must be itself superior as it undoubtedly can be made with proper effort. It is all very well to exhort California patriotism to buy home products, but when one tries to practice it by buying California hams and bacon in country stores he is apt to have pushed at him a naked and shapeless chunk or slab, possibly flyblown and mildewed through exposure, while the imported article is presented gloved, brushed and chromo-ed. Is it any wonder that the purchaser pays twice as much for the latter? Besides the whole line of meat products must be amply provided for. We can never expect to get justice for the raw material until the manufacturing is provided for.

Another fundamental general requirement is fair and adequate facilities for marketing so that actual values can be had. We have been able to stump along for half a century with a few companies controlling the sale of cattle and handling local buyers by alliances or by separate spheres of action. A great production can never thrive by flat prices without regard to quality or by hoodwinking cuts or increases. All transactions in livestock must come out in the open and every man get what should be coming to him. The day for monopoly in production and favoritism in sale must pass, before our stock industries can meet their opportunities in this state. There must be straight roads opened to purchasing and selling, both for feeding and for slaughtering.

How shall these great requirements be met? We do not know, but we do know that there are just two things which are worth looking at for relief: one is the state and the other is growers' co-operation. We cannot expect that men or corporations who now have good things will give them up; the thought is worth laughing at. There ought surely to be joint action by all those who are not bound up in the "interests." There ought to be organization for it and it should look first, perhaps, at the proposition for State marketing, passed by the last legislature. The needs of meat producers should be first forcibly urged upon the attention of the new State Market Director, when the governor finds him. Whatever is undertaken must have organized strength behind it, both to make the truth known and to enforce it. Individual agitators for justice and fairness will simply get the "ha ha." The provision of open marketing facilities can alone make the present rush for increasing meat production safe and satisfactory.

Dairymen Attention

Be sure to attend the Exposition during AGRICULTURAL WEEK, November 1-4.

We will give a valuable prize which will be drawn by some dairyman who enters the Exposition gates and visits the

Hinman Milking Machine Booth

in the

Palace of Agriculture,

on any day of Agricultural Week.

C. F. Daniells

Manager of Exhibit.

2nd Street, at Aisle B.

P. P. I. E. San Francisco.

STOCKTON, CAL. P. O. Box 679 — LOS ANGELES, CAL. P. O. Box 1117

H. B. THORNBERRY

Dealer in Registered and Pedigreed

Jacks and Jennets and Galted Kentucky Saddle Horses.

Largest importer in the United States. Stock sold under the very best possible guarantees, and with terms to suit purchasers.

The De Laval Line



Automatic Oiling De Laval Cream Separators, De Laval Milk Clarifiers. Ideal Green Feed Silo. The best investment for the dairyman and stock raiser.



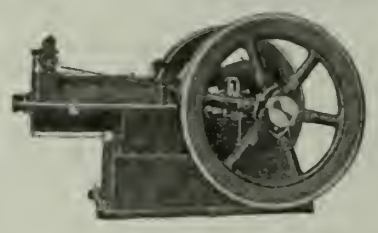
James Sanitary Barn Equipment

Steel Stalls, Stanchions, Litter Carriers, Feed Trucks, Calf Pens, Bull Pens, Cow Pens, Sanitary Milk & Cream Coolers,



Babcock Testers, Milk Fever Outfits, Sanitary Milk Pails, Refrigerating Plants, Pumping Plant Equipment, Viking Pumps, Centrifugal Pumps.

Cow Comfort



Alpha Gasoline and Distillate Engines

All types and sizes for all fuels. 1½ H. P. to 100 H. P.
No Batteries. No Coil.
No Cranking
No Troubles.

The Alpha Combination Power Spray Outfit

"A 2 in 1 Power Unit."



The Exposition Dairy Barn was designed and fitted up by us with James Sanitary Barn Equipment, and which is now for sale for delivery after December 4th. Look it over and then ask for prices.

Everything for the Dairy.

DE LAVAL DAIRY SUPPLY CO.

SAN FRANCISCO. SEATTLE.

Visit our booth in the Palace of Agriculture, corner Ave. B and 3rd St.

Paicines Ranch Co.

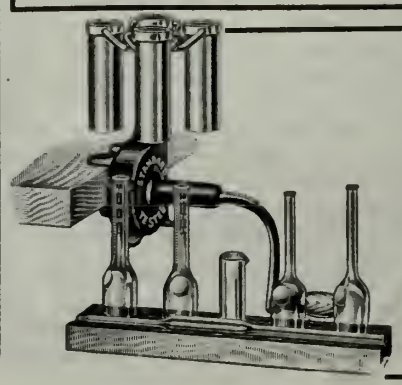
Registered and Unregistered Short-Horn Bulls for Sale

For prices apply to

David J. Stollery or H. J. Macomber

320 Sharon Bldg. San Francisco.

Paicines Ranch, Paicines, Cal.



Are Your Cows Paying for Their

F E E D ?

The best way to find this out is with a Babcock Tester and Scale. We have complete outfit which anyone can learn to use in ten minutes.

2 Bottle Tester to test two cows at a time $3.75
4 Bottle Tester $4.25
Guaranteed Spring Scale, 40 pounds by tenths $3.00

We handle everything used in the dairy. Write us your needs.

Sanitary Dairy Supply Co.

244 Central Ave., Los Angeles

NAMA-PACIFIC EXPOSITION CATTLE AWARDS.

(Continued from page 423.)

roduce of dam: 1st, Porter; 2nd, er; 3rd, Cartwright.
et of sire: 1st, Porter; 2nd, er; 3rd, Cartwright.
ow in milk, 3 years old or over, ed for dairy production: Laura yson, shown by Cartwright; sy, by Porter; Hortena 10th, by er.
enior Champion bull: Lordly, vn by Porter.
eserve Champion bull: Crobat, vn by Cartrwight.
unior Champion bull: Boblett, vn by Cartwright.
eserve Junior Champion bull: er, shown by Porter.
rand Champion bull: Lordly, vn by Porter.
eserve Grand Champion bull: lett, shown by Cartwright.
enior Champion cow: Pansy, vn by Porter.
eserve Senior Champion cow: ra Davyson, shown by Porter.
unior Champion cow: Mayette, vn by Porter.
eserve Junior Champion cow: le Leaf, shown by Porter.
rand Champion cow: Pansy, vn by Porter.
eserve Grand Champion cow: ette, shown by Porter.

Royal Rose, by Allen Co.; English Lady, by Chalmers.

Junior heifer calves: Pacheco Lass 65, shown by Pacheco Cattle Co.; Type's Goldie, by Hopland Stock Farm; Mary of Argyle, by Chalmers; Hopland Pride, by Hopland Stock Farm.

Graded herd consisting of one bull 2 years old or over, one cow 2 years and under 3, one heifer 1 year and under 2, one heifer under 1 year: 1st, Allen; 2nd, Chalmers.

Breeders' young herd: 1st, Allen Cattle Co.; 2nd, Hopland Stock Farm; 3rd, Chalmers.

Calf herd: 1st, Allen Co.; 2nd, Hopland Stock Farm; 3rd, Chalmers.

Produce of dam: 1st, Allen; 2nd Hopland Stock Farm; 3rd and 4th, Chalmers.

Get of sire: 1st, Allen Cattle Co.; 2nd, Hopland Stock Farm; 3rd, Chalmers.

Senior Champion Bull: Scottish Baron, shown by Chalmers.

Reserve Champion Bull: Snow King, by Allen.

Junior Champion Bull: Bobbie Burns, by Hopland Stock Farm.

Reserve Junior Champion Bull: Pacheco Lad 67, by Pacheco Cattle Co.

Senior Champion Cow: Snow Girl's Queen, by Hopland Stock Farm.

Reserve Grand Champion bull: Scottish Baron, by Chalmers.

Grand Champion Cow: Belle Cumberland, by Allen.

Reserve Grand Champion Cow: Snow Girl's Queen, by Hopland Stock Farm.

On October 20 a meeting of dairymen was held at Barstow, Fresno county, to discuss the organization of a company for the manufacture of cheese. A committee was appointed to formulate plans to report at a meeting to be called in the near future.



Calf Profits

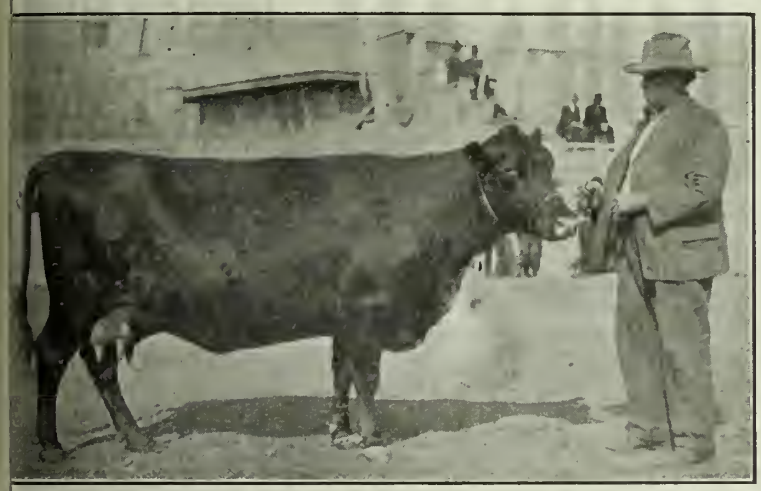
Are you getting them? Calf profits mean more to you now than ever before.

Blatchford's Calf Meal

has been known since the year 1800 as the complete milk substitute. Costs less than half as much as milk—prevents scouring—promotes early maturity. Sold by dealers or direct from the makers.

Write for New Data See actual figures showing you how to increase your calf profits.

F. F. SMITH & CO. - Sacramento, Cal.



LAURA DAVYSON,
Red Polled First Prize Winner for milk production; California owned.

horthorns. — The following rds were made in the Shorthorn sion in the order named by Capt. E. Robson, whose judgment ved satisfactory to all exhibitors: ulls 3 years old and over: ttish Baron, shown by A. Chals; Bell's Searchlight, by H. C. kabaugh.
ulls 2 years and under 3: Snow g, shown by Allen Cattle Co.; den Scot, by A. Chalmers.
enior yearling bulls: Bobbie ns, shown by Hopland Stock m; Archer Mine, and Star of e, both by Pacheco Cattle Co.
unior yearling bulls: Divide mberland, shown by Allen Cattle ; Dale's Pride, by Pacheco Cat- Co.; Golden Cumberland, by en.
enior bull calves: Star Cumberd, shown by Allen Cattle Co.; heco Lad, by Pacheco Cattle Co.; den Prince, by Chalmers; Hopd Choice, by Hopland Stock m; Hopland Duke, by Hopland ck Farm.
unior bull calves: Pacheco Lad shown by Pacheco Cattle Co.; pland Champion, by Hopland ck Farm; Mildred's Prince, by lmers; Hopland Gem, by Hopland ck Farm.
ows 2 years and under 3: Snow l's Queen, shown by Hopland ck Farm; Robin's Glossie, by pland Stock Farm; Royal Gift, Allen Co.; Goldie Cumberland, Hopland Stock Farm; Dorris e, by Pacheco Cattle Co.
unior yearling heifers: Lavender id, shown by Allen Co.; Prince r, by Chalmers; Fork Branch dred 13, by Chalmers; Fair Cumland, by Hopland Stock Farm; pland Gay Lass, by Hopland Stock m.
eifer calves: Hopland Duchess, wn by Hopland Stock Farm; al Flower, by Allen Co.; Hopland uty, by Hopland Stock Farm; Farm.

Reserve Senior Champion Cow: Fork Branch Mildred, by Chalmers.

Junior Champion Cow: Belle Cumberland, by Allen.

Reserve Junior Champion Cow: Lavender Maid, by Allen.

Grand Champion Bull: Bobbie Burns, by Hopland Stock Farm.

The American Berkshire Congress SALE

EXPOSITION GROUNDS, SAN FRANCISCO.

Saturday, Nov. 6th

at 1 o'clock p. m.

The leading PRIZE-WINNING BERKSHIRES at the Exposition, will be offered at auction without reserve.

Among the Contributors will be the following well known breeders:

A. M. Alexander, Suisun, Cal.
A. H. Brinton, Woodland, Cal.
W. M. Carruthers, San Francisco, Cal.
Stephen S. Day, Sacramento, Cal.
F. L. Hall, Perris, Cal.
A. B. Humphrey, Mayhews, Cal.
G. A. Murphy, Perkins, Cal.
H. L. Murphy, Perkins, Cal.
Pure Gold Stock Farm, Elk Grove, Cal.
F. R. Steel, Grant's Pass, Oregon.
Chas. M. Talmadge, Newport, Wash.
Thatcher, Ennis & Williamson, Riverside, Cal.
F. W. White, Elk Grove, Cal.

AUCTIONEERS

COL. BEN A. RHOADES, Los Angeles, Cal.
COL. W. H. HORD, San Francisco, Cal.

For catalogues address

Frank S. Springer, Secretary,

Springfield, Illinois.

Consignment Sale of Herefords

—AT—

PORTLAND STOCK YARDS

December 11, 1915

UNDER THE AUSPICES OF THE

American Hereford Cattle Breeders Association

CONSIGNORS: George Chandler, Baker, Oregon; A. B. Cook, Townsend, Montana; Wm. Emery, Macleay, Oregon; Henry Thiessen, Sweetwater, Idaho.

The Cattle offered are a very high class lot and represent the very best lines of Hereford breeding.

Col. Fred Reppert, Auctioneer

FOR CATALOGUE WRITE

R. J. Kinzer, Sec., AMERICAN HEREFORD CATTLE BREEDERS' ASSOCIATION. **Kansas City, Mo.**

BEET PULP FOR CALVES.

Beet pulp seems to be a specially good feed for growing calves, judging from the experience of McAlister and Son of Chino, two of whose calves are shown in the pictures, having attained exceptional weight for their age. Says Mr. McAlister:

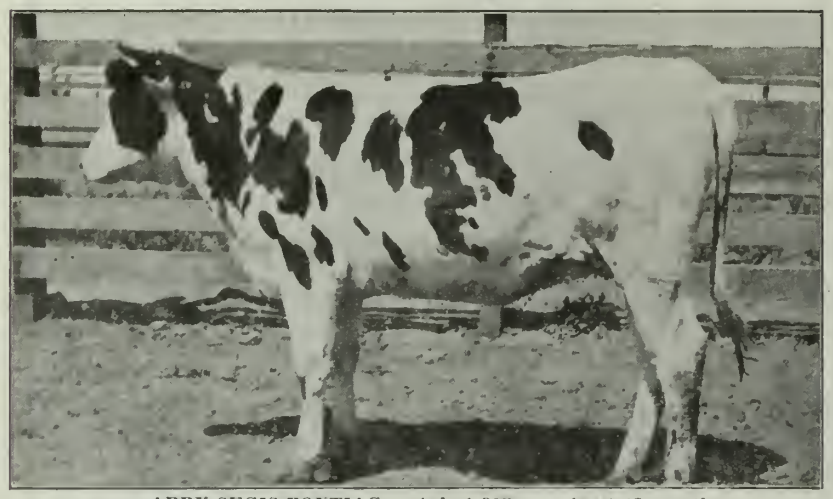
"We feed our calves a ration of about 75% beet pulp and 25% barley until they are about four months old, after which we feed beet pulp exclusively. The average weight of all of our calves (which we have been weighing regularly at twelve months old) has been 895 lbs. The value of dried beet pulp over other concentrated feeds is shown in the fact that at the Kansas Station the average weight of their calves was only 669 lbs. at twelve months, and Henry in his 'Feeds and Feeding' states that 'whoever attains these figures in rearing calves should be well satisfied.' At the Michigan Station, under a heavy ration of grain, the average weight of 57 calves at 12 months was 648 lbs. Our own calves have thus averaged on beet pulp about 35% greater weight than has been obtained at the experimental stations under their expert feeding of grain.

At our Los Angeles sale at Ascot Park, which broke all averages for a live stock sale on the Pacific Coast, the cattle sold were brought out from the East in extremely poor condition, yet after about four months' feeding on alfalfa and beet pulp they were brought up to the most splendid condition, which was one of the very greatest factors for the success of the sale."

[Since beet pulp has such a low ratio of digestible protein to digestible carbohydrates, and since growing animals need about four times as large a proportion of protein as beet pulp affords, we judge that Mr. McAlister refers to "beet pulp exclusively" as the concentrate ration, probably supplemented by alfalfa hay or pasture.—Editors.]



MAGERERTJE GIRL PONTIAC, weighed 880 pounds at 12 months.



ABBY SEGIS PONTIAC, weighed 908 pounds at 12 months.

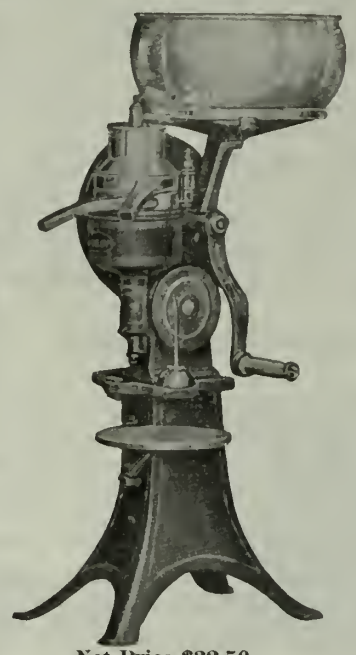
EXPOSITION SHOW OF SHEEP, GOATS AND SWINE.

A show of sheep, goats and swine will be held November 3 to November 15 at the Panama-Pacific International Exposition at San Francisco.

It will be a distinctively western show, for, like the cattle show, it has been deprived, owing to the foot and mouth disease quarantine, of animals from the entire territory east of the Mississippi river and from Minnesota, Iowa, Missouri, Kansas, and Montana. Nevertheless, this leaves Arizona, New Mexico, Colorado, Nebraska, Washington, Oregon, Texas, Oklahoma, Nevada, California, the Dakotas, Idaho and Wyoming from which to draw, and exhibits are coming from this great region.

The Exposition has appropriated $25,000 for cash prizes for sheep and goats and $25,000 for swine.

The judges of the sheep will be Henry Arkell, Guelph, Ont., Oxfords; George W. Cavan, Sugar Grove, Ill., Hampshires; J. C. Duncan, Lewiston, N. Y., Shropshires and Southdowns; D. C. Lewis, Camp Point, Ill., Cotswolds; Prof. F. B. Marshall, U. S. Bureau of Animal Industry, Washington, D. C., Romneys; John E. Webb, Southport, Ind., Rambouillets. Goats will be judged by Thomas W. Brunk, Salem, Oregon. The swine judges will be A. L. Goodenough, Morrison, Ill., Hampshires; James M. Kemp, Kenney, Ill., Poland-Chinas; Herbert W. Mumford, Urbana, Ill., Duroc-Jerseys; F. A. Scott, Belleville, Ill., Berkshires.



Net Price $32.50.

Harris Brothers Company announce the sale of the

RUMELY CREAM SEPARATOR

AT A SPECIAL LOW PRICE FOR QUICK SALE.

The Rumely Cream Separator is a machine that will save all the butter fat—deliver the skim milk with but little foam—that has interchangeable parts—a durable machine that will last for 20 years or more—a separator with which you can regulate the cream to any thickness desired—a machine that is clean and that you can use in the dairy or kitchen without danger of splashing milk or dripping oil on the floor.

The Rumely Cream Separator

is made by one of the oldest manufacturers in this line in the country, and these standard separators we are offering at the following prices until exhausted. Get yours first.

No. 14— 500 lbs. milk per hour $32.50
No. 16— 750 lbs. milk per hour 37.50
No. 20—1000 lbs. milk per hour 44.50
f. o. b. Los Angeles, San Francisco and Portland.

Bernard B. Fallon

SPECIAL AGT., HARRIS BROTHERS CO.,
205-7 No. Los Angeles St., Los Angeles, Cal.

FOR SALE Jersey Bulls Bull Calves

from cows on yearly test-making good-sired by our herd bulls KING'S VALET (imported), VALET'S KING OF L, BORELLO'S GOLDEN LADDIE, GRACE'S FOX OF VENEDERA, and NORMA'S GERTIE SON OF L, cacked by production and winnings in the show rings.

They are of FINANCIAL KING, GOLDEN LAD, GOLDEN FERN'S LAD, MARIGOLD and ST. LAMBERT blood, the kind that improve type, cream production and persistency. One cow gave 49.5 lbs. fat in 11th month; her daughter gave average test of 8.38%; another gave 79.9 lbs. fat in one month, 238.9 lbs. fat in 134 days. A 2-year-old gave 50.6 lbs. fat in one month—all under dairy conditions.

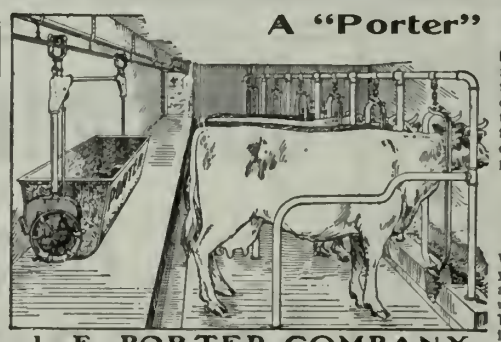
We have bulls from such cows, with correct type.

Dairyman's Opportunity

For $50, a yearling bull by VALET'S KING OF L, out of a good cow. $25 for bull calves under 30 days old. Tabulations, but no Registrations at this price.

Come and see them, send for catalogue, or write us your needs, and we will give you satisfaction and profit.

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PORTER EQUIPMENT MAKES A BARN modern and up to date—one that takes care of the largest number of cows and other stock. A barn planned the Porter way saves labor, time and feed, and makes money for the farmer or dairyman every day in the year. It pays big profit on the investment.

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THE PORTER BARN PLAN SERVICE is free, whether you expect to build now or later. Send for catalog of Perfect Barn Equipment.

J. E. PORTER COMPANY
642 Fremont Street, OTTAWA, ILL.

FOR SALE

Holstein Bull Calf

Born July 27, 1915.

Sired by Prince Teake Lyons Cloverdale, son of Avon Dare Cloverdale, an 18.09-lb. cow who has a 23-lb. daughters. Is grandson of Teake Lyons 3rd, a 30-lb. butter cow. Dam is Petra, who made 19 lbs. butter 62 days after calving, and has 5 A. R. O. sisters, among which is Pietertje Bloom, a 28-lb. cow, and a 23-lb granddaughter Novena Cream Cup. Her dam's dam is Mercedes Julipe Pelterje, the first great butter cow California produced. Record 29.5 lbs. butter in 7 days. This promising youngster is a straight, strong, well-marked individual, two-thirds black. The first check for $100 gets him.

L. A. Hall R. 1, Box 39a San Jose

When Grain is High Feed DIGESTER TANKAGE

Whether intended for show or market, the hog attains perfect condition and more quickly and economically if his ration includes some DIGESTER TANKAGE. The growing pigs needs DIGESTER TANKAGE as a bone and muscle builder. Write for free pamphlet on hog-feeding.

WESTERN MEAT COMPANY,
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CHOLERA IMMUNE

Our herd is Choiera Immune, the only Immune Berkshire herd in the State.

Five herd boars in use and they are second to none on the coast. Our sows are of equal merit.

We have at present some 300 Berkshire and we know that we can supply what you want.

Write Us or Call.

OAK GROVE DAIRY FARM

H. G. ARMSTRONG, Prop.

Woodland, Cal.

Brighton Herd

Registered Berkshires

A few bred and unbred Gilts. Also a few fine young boars for sale.

Five Registered

Shorthorn Bulls

The Brighton Herd is Headed by Red Victor 419456.

H. L. MURPHY,

PERKINS, Sacramento Co., Cal.

Poland China Pigs

LARGE AND MEDIUM TYPE

A Wander and Giantee Stock.

Prize-Winners of either type. Several very fine young boars and a few bred sows for sale.

We guarantee to please or refund your money.

W. A. YOUNG, Lodi, Cal.

Registered Swine.

TAMWORTHS

and

Duroc-Jerseys.

We can now fill orders for Bred Sows, Boars of breeding age. Gilts 8 to 9 months old, and Weanling Pigs.

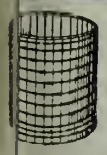
This is the largest herd of TAMWORTHS in the State. Our stock is sure to please.

Write or call and see us.

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W. O. PEARSON, Prop.

Woodland, California.



Redwood Tanks

Stock Tanks and Silos. Lumber direct from the forest. A tank 4x3 ft., $6.50; 5x3 ft., $7.50; 6x3 ft., $9.00; 8x3 ft., $12.75. All other sizes in stock and equally cheap. I sell direct to the consumer Trays, Box Shook. You will save not less than 10 per cent by trading with me. Doors, Windows, Mouldings. 35 yrs. in this business.

F. WILSON, STOCKTON, CAL.

Registered DUROCS

Prize Winners. Stock Imported from Indiana. We have now for sale

6 Brood Sows, 4 Service Boars.

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W. C. CHISHOLM

Route 4, Santa Rosa, Cal.

Model Herd of BERKSHIRES

ed for size, bone and quality. Pigs r sale, sired by Big Royalist 180837 d Breed's Model 165859, both winners blue ribbons at State Fair. Descriptive catalog upon request. L. GISH, Lawa, Inyo County, Cal.

POLAND CHINAS

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YOUNG STOCK FOR SALE

(Both Sexes)

THE BROWNING STOCK FARM

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lue Ribbon Berkshires

Registered

erd took 3 firsts, 5 seconds, 3 thirds.. mpion Sow American Berkshire Silver Trophy at 1914 State Fair.

ice-bred Gilts, Boar Pigs and Sow Pigs from prize-inning sows. They are going fast. Order now.

W. WHITE, Elk Grove, Cal.

Mutton Sheep on Small Farms.

[Written for Pacific Rural Press.]

NOTES FROM SHEEPMEN

Telling the Age of Sheep.—When we buy sheep to feed or breed, we want to know that their age is as represented, for old, stunted sheep cost a lot more to fatten or to keep than young ones of the same breed; and the chances are they cannot be sold as early.

By the time a lamb is a month old, he has a full set of eight baby nippers which grow wider and longer until they are full sized. They begin to decay at three months. The baby teeth are shed at about a year old and two permanent nippers grow together from the middle of the lower jaw. This is all they have during their second year, which is why they need tender feed. Every year afterward they add two teeth until there are eight in front. After that, however, they wear down; in some sheep worse than in others on account of hard or soft food, sandy or clay pasture, and corrosive material in the feeds.

Something Doing with Shropshires.—Thirty-five hundred January to March lambs weighing 66 pounds were sold May to July, 1915, at $5.11 each, by A. W. Foster of the Lake View Farm of Marin county.

Mr. Foster has a flock of 10,000, founded five years ago and brought to its present efficiency in mutton lamb production by the continual use of purebred Shropshire bucks, from his own purebred flock of 50 to 60 head of ewes kept for the purpose.

The sheep are divided into bands of 500 each, kept in fenced pastures on Italian rye grass sown 20 years ago. The ewes clipped about 8 pounds apiece.

Grain Foundered Sheep.—"There is no danger in feeding barley to sheep," says a sheepman of 25 years' experience. "The greatest grain ever fed is rolled barley, but too much fresh corn will founder sheep so that they get stiff, lose their appetite, and many never get over it." Whole corn, either Indian or sorghum, thrown onto the ground requires so much chewing that it isn't likely to hurt, but Mr. Blankenship has had sheep founder on wheat so stiff they could not get up in the morning. Some of them were saved by forcing them to move around until the stiffness worked off.

More and Better Hogs in California.

[Written for Pacific Rural Press.]

YEAR-AROUND HOG PASTURE.

Crop rotation furnishing continuous green feed and grain for hogs can be started now on the plan adopted by Henry Webb, suggested by Farm Adviser Mayhews of Madera county.

Mr. Webb is working 50 acres next to the old Miller & Lux grain land. By rotation, he is improving the condition of the soil, spreads hog manure over the place without trying, gets good crops, and beautiful, sleek hogs.

He has 12 brood sows, 80 summer pigs, and about 50 others. He expects to more than double the number of sows this year so he will work the rotation similar to last year, but on a larger scale.

He will sow 20 acres of vetch and barley in October, not as ordinarily sown. (He had 7 acres last year.) According to Mr. Webb, the reason people get a poor stand of vetch is that they do not cover deep enough. For lack of a disk or other seed drill (which would be best), he last year sowed the vetch broadcast after an irrigation, disked it in, then broadcasted the barley, and harrowed it. He says vetch must have water.

By December 1 there was good green feed in this field and he turned eight sows with their pigs on the seven acres until March 20. March 1 is late enough. When he took the hogs from the vetch, he turned them onto good alfalfa, irrigated the barley-vetch, and in May had a good crop again which he could cut for hay, but he turned the hogs back on it until June 15. They were then turned onto alfalfa pasture, from which a crop or two had been cut for hay to feed in wet weather and to keep the pens free of mud.

He planted feterita on the barley-vetch ground to be pastured later until the next year's rotation would start again. More hogs would eat off the barley-vetch sooner, and allow feterita to be sown earlier.

Four acres of mangels were planted last fall to use in the early spring. He pulled "a raft of them," many weighing 12 to 14 pounds, and hauled them to the hogs; but pulling them in the wet mornings got too disagreeable so he turned the hogs on them to harvest the rest. He figures on putting away some mangels under straw to use during the dry season of the year. The mangels were off early so that he planted milo maize mixed with soy beans and when the maize was ripe, he headed it and ground it for fattening food. Two acres were sowed to turnips in October also, and were ready to eat Christmas, but the hogs had to be taught to like them. He thinks he could mix turnips with the grains, and expects to do so when he sows grain after the mangels are off this season.

CATTLEMEN'S MEETING.

The California Cattlemen's Protective Association elected officers Oct. 23 as follows: President, H. W. Lynch, Pleyto; treasurer, Ed. de L. Cebrian, San Francisco; secretary, F. J. Sinclair, San Francisco.

The Association passed resolutions favoring the appointment of a commission composed of stockmen to control the State veterinary work. They favored the establishment of a Federal animal quarantine station at San Francisco, and resolved to ask for the use of the Exposition stock buildings for an annual live stock show. They opposed the establishment of Union Stockyards or any centralization of livestock selling operations.

The supervisors of San Luis Obispo and Kern counties were commended for hiring detectives to help prevent cattle thieving.

Caesar A. Gerali & Co. recently purchased 1800 acres of land southeast of Oakdale. The company will subdivide the land into 80-acre tracts and colonize with Swiss-Italian dairymen.



LARROWE'S DRIED BEET PULP

IT is no longer necessary to buy high priced mill feeds for your dairy cows. A ration composed solely of ALFALFA AND LARROWE'S DRIED BEET PULP furnishes just the right proportions of protein and carbohydrates, together with sufficient bulk and an abundance of succulence. Dairy cows will do their best on this ration and yield 1 to 5 lbs. more milk per cow a day shortly after putting them on it.

A. W. Morris & Sons (breeders of the world's champion cow—Tilly Alcartra) say "Larrowe's Dried Beet Pulp increases the milk flow, strengthens and improves the physical condition of the cow."

McAllister & Son (well known and very successful Holstein-Friesian breeders) feed alfalfa and Larrowe's Dried Beet Pulp exclusively and say that they "know of no grain its equal and couldn't get along without dried beet pulp."

Thousands of feeders will tell you of the splendid results they are getting from this healthful, succulent vegetable feed. It is excellent for fattening; also for horses, hogs, sheep, etc.

LARROWE'S DRIED BEET PULP

—is clean, wholesome, appetizing; aids digestion; contains five times as much nutriment as silage, with as great or greater succulence—swelling to fully six times its original bulk when moistened. It is put up in convenient 100-lb. bags and may be had either plain or with molasses.



GO TO YOUR FEED DEALER TODAY and order a single 100 lb. sack of either the plain or molasses dried beet pulp. Ask for Larrowe's. Test it on one cow whose milk record you know—and watch results.

FREE! Our Booklet "Profitable Feeding."—containing valuable information on feeds and feeding. Should be in the hands of every dairyman. Write for a copy—today.

THE LARROWE MILLING CO.

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Los Angeles

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R. E. HODGES - - Assistant Editor
J. C. LOOMIS - - Assistant Editor

California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture Weather Bureau, at San Francisco, for the week ending at 5 p. m., October 26, 1915.

STATIONS	Rainfall Data: Past Week	Rainfall Data: Seasonal To Date	Rainfall Data: Normal To Date	Temperature Data: Max'm	Temperature Data: Min'm
Eureka	.70	1.13	3.50	72	44
Red Bluff	.14	.14	2.15	82	46
Sacramento	.00	.01	1.27	84	48
San Francisco	.01	.02	1.35	78	48
San Jose	.00	.04	1.12	80	38
Fresno	.00	.00	.89	86	48
Independence	.00	.09	.78	80	38
San Luis Obispo	.00	.01	1.60	86	42
Los Angeles	.00	.00	.71	80	48
San Diego	.00	.00	.46	68	52

THE WEEK

As we write on Wednesday morning it is sure enough that the voters yesterday knocked the cupola off the rural-credit skyscraper which we builded with such care and affection in our last issue, and it seems rather likely that the vote has destroyed the whole top-works of it. Concerning the resoluteness with which the rural credit amendment has been defeated it may be said that people in other vocations voted against it because they thought it would give too much cake to farmers and farmers voted against it because promoters buzzed around it like flies around a sugar barrel; because it might throw self-made land owners into competition with a lot of endowed producers and because it might be productive of bonds, which most farmers hate like the plagues of Egypt. Besides, all kinds of people voted against it because it did not agree with their convictions and interests in politics and economics.

We rather strenuously advocated the passage of the amendment because we were perfectly sure that the folly and danger which might be possible under it would never even rise to be judged, as every proposition under the amendment would have to be before becoming operative, for the amendment legislated nothing. What we saw in it most broadly was: first, the popular recognition of the proper relation between agriculture and the State which agriculture maintains; second, the assertion of the popular claim of agricultural security for freedom from financial exactions which now exist; third, the demonstration to the public mind that present operations of commercial credit are ill-adapted and inadequate to agricultural needs. If California had adopted the amendment, these elementary and fundamental things would no longer need to be contended for.

Lest any one may think that the failure of this amendment kills rural credit in California, we hasten to declare that it does not. On the other hand the vote has cleared the sky of a lot of fret-work of enforced altruism and paternalism, the very sight of which was offensive to many people. To us this was never anything but scaffolding which we never believed would take permanent form in any un-American way but which seemed to us of advantage in the development of a few broad popular convictions, such as we have noted. These convictions must now be engendered in some other way; and after the wreckage of the present effort is cleared away, we shall hope to indicate another and, we trust, a better way.

National Aspect of Rural Credit.

In view of the position taken by the California voters, it is interesting to note that the political rural-creditors at Washington seem to be yielding to quite a strong pressure, presumably from the south and southwest, to furnish government aid in short-term rural credit for cropping and improvement purposes. It seems to have been more or less forcibly brought to the attention of the ruling powers in Congress that the people will not be satisfied with amortization mortgages of a generation's length, but demand something here and now in the line of endowed personal credit. The telegraphed report is that the Federal Rural Credit Commission, appointed by President Wilson, which is the core of the larger body, the American Commission, appointed chiefly by the governors of states, has now a strong feeling to favor legislation providing not only land mortgage loans as they first proposed, but short-time loans with personal property as security. This is the result of what the administration did and threatened to do in loans on cotton at much lower rates and better terms than the southern cotton-loaning sharks have hitherto exacted from the growers. The show of influence in this direction is clear in the announcement that "the joint committee of the House and Senate on rural credits is also to take up the subject of short-time loans. A sub-committee is now being asked to prepare recommendations for submission to the full committee at its first meeting next month." It seems quite likely then that there will be something let down from above in Washington this winter and the economists may forget the California pranks in finance in wrapt contemplation of the more entrancing antics at Washington. Politically it will be a race for first place, with all the parties entered for it.

Marketing at the Southern Exposition.

Emphasis is surely seeking the subject of better marketing of California products and it will be an approval of the sense of many of our readers that California needs "safety first" in the matter of selling products at a fair profit above the actual cost of their production. Some of them write us that they will take care of their own credit if they can sell their stuff with a margin for themselves. Some other time we may ask readers to look into that proposition a little more closely—but now things seem to be moving in a marketing way. The State Development Board announces that it will hold a great "counties convention" at the San Diego exposition on November 12 to 14 and adds this: "Instead of the usual formal addresses the Board has adopted, as a unique feature, the plan of having the State Rural Credits Commission conduct a public hearing on the subject of marketing under our auspices." Of course it may seem strange to some that their proposition of "better marketing as a substitute for rural credit" should be transformed into "better marketing through rural credit"—that is not the only surprise they are likely to get, if they live long enough, but we have already dodged that question, for the present. In regard to this announcement by the State Development Board our advice is to give earnest heed to it. It is no secret that the existing Rural Credits Commission, though it is lamentably short of direct rural affiliations, has something else which is just at the moment better, perhaps. It is conceded to be ears, eyes and hands for Governor Johnson and the present executive outfit of the State, which has more than three years to run. Governor Johnson long ago declared himself of the opinion that the farmer is not getting a fair deal out of the cards the consumer has to play. He also signed the bill for State marketing, though it seems still to be heavy in his digestive tract, so far as putting it in operation is concerned. Our advice is that all Californians who yearn for better marketing shall make a strong drive on the "rural credits commission" with their experience and convictions. Col. Weinstock knows well enough how to sell things and long ago his insight was of great value to producing interests by the advocacy of the auction sale of California fruits in great eastern centers. Therefore, if your preference demands better marketing arrangements, now is your chance to shoot your shells so hard at Col. Weinstock and his associates that they will explode in the basement of the State Capitol, and the governor will understand that the people demand something doing in that line. Besides, the San Diego people will keep open house in the way of open meetings and entertainments and it will be a very good time to visit the southern exposition.

Building up Producers' Business.

Probably the advocate of "marketing first" may get a hint that marketing needs money, and success in marketing may often depend upon the terms and rate at which you can get money. It is currently reported that in a decision made by Corporation Commissioner Carnahan, on application of the Dairymen's Associated and Condensed Milk Company of Modesto to finance itself on an investment of $300,000 to erect and operate three condensaries, it was ruled that the company ought to have $500,000 capital, and further, should have its own brand and spend money to establish it. Commenting on the above decision and suggestion, a writer in the Oakland Tribune says: "This decision appears to take a definite stand on the controversy between the wholesale jobbers and the producers. It has been the practice of large wholesale jobbers to establish their own brands and spend large sums in advertising the same. They buy the product unlabeled from the producer and put it on the market under their own brand. There is a large investment in this trade and the tendency or purpose of Carnahan's ruling is to wipe out the middleman and compel the producer to be his own jobber." We are not so sure that the purpose is to "wipe out the middleman." He is probably smart enough to stay in and adjust himself. We should say that the purpose is to make the particular special product, in this case, safe because the ad-

itional money advised is necessary to make ıe whole investment independent and capable f being profitably used. How long is any ırge factory safe in making an unmarked roduct and developing no distribution of its wn? Perhaps as long as it has a good con-act with a distributor. And how long will ıat be? Probably no time at all, because the acker knows that, beyond a limited amount, e can do better buying from "independents," ho are really dependent because they are un-rganized. It is becoming pretty clear from ıe experience of our citrus growers, raisin rowers, walnut growers, etc., that producers ave no chance at all, in a large way, unless ıey establish their own packing houses and rands, undertake their own distribution; lib-rally and systematically pushing it and giv-ıg every one who has a buying constituency qual opportunity in supplying it. And does not pretty clearly appear that this requires ıoney? Judge Carnahan's advice to the peo-le who wish to go into milk-condensing seems) be that they will need two-thirds as much ıoney to handle their product profitably as ıey will need to make the product. We do ot know whether that is an accurate estimate r not, but no one will deny that it needs the se of a lot of money. Can you borrow it at a)w a rate of interest as the aforesaid jobbers an? Yes, probably when you get your credit ıto as acceptable shape as his. How will you o that? And there we are silent: we have ome to a phase of the marketing question hich we promised not to hold forth upon this eek.

The Fruit Growers' Convention.

All fruit growers who can should be present t the next Fruit Growers' Convention which ill be held in Visalia November 18 to 20. here are indications that it will be nearer to s proper character as an assembly of fruit rowers than any convention held during re-ent years. One of the growers in the locality ho is giving some attention to the matter rites us as follows: "About seventy-five per ent of the speakers will be practical men and bout seventy-five per cent of the time will be iven to the discussion of the marketing, co-peration and rural credits. While this con-ention may not be any better than its prede-ssors for the past four years, it will at least e different." To this we have to say: if ou are sure that it will be different the hances are that it will be better.

What the Visalia convention needs for suc-ess is a large and representative assembly of ruit growers and handlers, able to proceed oward solution of existing problems from a roducer's point of view. Such a view should ave pre-eminence in the proceedings, and those ho hold it, by virtue of experience, effort and ıvestment, should be the leaders in discussion nd transaction. Academic and official per-ons were formerly tributary and advisory, and hey received great consideration and respect ecause the growers valued their services. Thus he proper relations between the real produc-ıg interest and its servants were established t the beginning. Then, about thirty years go, horticultural politics were born. Those olding state positions feared the dynamite of hose who desired to possess them; and a man ho had more politics than fruit interests appened to be in a place where he could ar-ange things so that meetings, which were es-tablished as free, independent and popular assemblies of fruit growers, should become programmed and personally conducted affairs, which should no longer possess initiative in State work for the fruit interest, but should serve to bolster up the bureau in its work to secure legislation involving its own self-preservation and perpetuation. Very soon horticultural politics ran into general politics and those who regarded themselves as great horticultural luminaries began to throw billingsgate at each other in the rush for jobs. Each new captor of the job, during the last twenty years, began to entrench himself more firmly by new, inspired legislation until it has almost seemed that in some matters at least the horticultural production of the state exists for the promotion of laws and not laws for the promotion of the fruit interests. What we need now is return to the primitive simplicity, directness and power of originality of the earlier fruit growers' conventions. No other state had such assemblies: none needed them as California needed them then: none needs them as California needs them now. Oh yes, Visalia friends, if you will make the convention different, you will, in all probability, make it a better representative of the fruit industries.

Queries and Replies.

Querists must give name and address.

Soy Beans.

To the Editor: How shall I get a crop of Soy beans started; how many pounds to the acre to plant, and when is the right time to plant? Do hogs take to the beans readily? Will the plants when green make good green manure turned under; also what is the feed valuation of the beans?—E. J. B., Suisun.

Plant about 30 lbs. to the acre, dropping about two inches apart in drills 2½ feet apart, after frost-danger has passed, and cultivate as you would other beans. The crop should be cut before the pods fly open and cured or siloed or bagged off; for this use the crop may be dropped in the hills with corn. Hogs eat them readily though they may have to learn it, and the bean forage has the same character as alfalfa, but slightly less in degree. They are good for green manure, according to the amount of growth you get.

Crimson Clover Not Winter Grower.

To the Editor: I am living near the foothills, and wish to know if this section is too cold to sow crimson clover for a winter cover crop to plow under in March. If this locality is too cold for clover kindly advise me what to get to sow in vineyard and fig-orchard.—D. B. H., Reedley.

Crimson clover is very subject to frost injury and not a winter grower, even in almost frostless places. When conditions make corn jump crimson clover is also at its best, except that in California it does not seem to like dry summer air. Its growth was practically abandoned in this State 25 years ago. For winter growth, as you propose, sow bur clover or vetches.

Bean Hay.

To the Editor: My white beans were a total failure—making abundant vines, but no beans. I have cut the vines and they are now cured. I have been feeding them to my horses. They eat them fully as readily as alfalfa hay. Will the horses do well on them? Could they work as usual on that kind of hay?—E. H. S., Sisquoc.

Surely. Bean hay resembles alfalfa hay in composition and is more nutritious and digestible than bean straw, which is also good. It carries the stuff for work. The nutrients will be balanced by feeding a little grain with the bean hay, and it will probably give the horses a little more zip. Of course, you will watch the condition of the horses and act accordingly.

Walnuts and Blackberries.

To the Editor: Will blackberries do well in a walnut orchard? My walnuts are blighting so badly that I must either fill in with something, or take out the trees, and I wanted to let them stay a while longer in hopes that something will be found to cure the blight.—Subscriber, Sisquoc.

If the trees do not cast too much shade, the berries will do quite as well in the walnut orchard as the walnuts will do in a blackberry patch. Unless you have a deep soil and plenty of moisture the combination will not work very well either way, for you could hardly put in anything which would be more ugly, or be a greater temptation to abandon cultivation, than blackberries.

Local Observation Required.

To the Editor: I have an offer of land in a mountain valley in Siskiyou county, 4,000 feet above sea level, and would like to know if that is too high for successful farming. Would alfalfa grow there; how early and how late does it freeze, and about how much snow would there be?—Subscriber, Princeton.

These questions can only be answered by one who has lived some time in the immediate locality, for all places at the same elevation are not alike. Be careful. Go and see for yourself before purchasing. There is good farming and alfalfa as high as you mention, but local conditions have to be right.

Feterita and Milo.

To the Editor: How does Feterita compare with Milo for hog and poultry feed? I am thinking of planting all Feterita next year and have saved seed, but I have some good Milo I can save for seed also.—F. M. B., Hanford.

The average of analyses thus far indicates that Feterita is a very little richer in protein than Milo and a very little poorer in fat, but the difference is so small that it may be changed by more analyses. Practically they may be considered equal. The greater question is which gives you the greater crop, and unless you are sure of that you ought to go on growing both till you reach a conclusion.

Brown Scabs on Imperials.

To the Editor: My Imperial prunes had quite a bit of brown scab on them this year I enclose one with this. Can you tell me the cause, and what I can do to keep from it next season? —A Subscriber, Mountain View.

We have always credited such blemishes to abrasion of the skin by thrips, when the fruit is very small. If that is a true diagnosis the remedy is spraying early in the spring with tobacco extract, one pint of 40% extract to 200 gallons of water.

Fall Pruning.

To the Editor: I would like to know if it would be an injury to the French prune tree to prune them the first of November. My trees are six and seven years olds.—Subscriber, Healdsburg.

You can surely go to pruning without injury or loss to the trees, if the leaves are becoming limp and yellowish. If they are still green and evidently active, we should begin later. It is not a question of the calendar but of the condition of the trees.

Balancing Humus and Plant Food.

The only permanent way of keeping producing soil good is to give it adequate quantities of plant food elements in available form, supply humus and lime, regulate moisture, and prevent erosion.

[Written for Pacific Rural Press.]

Back in Dixieland, you are wont to hear the criticism that "commercial fertilizers burn out the land." What they really do is to furnish so much plant food that the increased crops remove the humus much more quickly. Then the land is "burned out" sure enough, for with humus gone, bacteria cannot work food elements into available forms, nor do many soils cultivate properly. Humus is needed to separate particles of fine soils and render them more porous; it is needed to fill in between the particles of coarse soils and render them less porous. It increases drainage in the one and moisture in the other. It provides food for bacteria, and holds resultant available plant foods where roots can get them.

Humus from Cover Crops and Manure.—Humus is not supplied in commercial form. It is produced on the farm in two ways: green winter cover crops (summer cover crops, too, if irrigated), and livestock manure. Cover crops are usually the most feasible and cheapest sources of humus, and are the best preventives of erosion.

Thousands of carloads of stable manure are hauled by rail from the cities every year to far distant farms. If manure is so valuable that the most progressive farmers pay the cost of collecting and loading it in the cities, and the freight rates, then haul from the railway and spread it on the fields, the farm manure produced in California is too valuable to waste by throwing it under the eaves of the barn or on the hillside to leach away and firefang. That this value is not only theoretical, but real and far greater than realized, is shown by the figures published July 10.

Manure Worth Over ½ of Original Feed.—Looking at it from another angle, G. A. Olson of the Washington Experiment Station says that if the $35,102,371 Washington wheat crop were fed to mature farm livestock, the value of the manure from that livestock estimated at 15 cents per pound for nitrogen and 5 cents for potash and phosphoric acid would be $13,361,871 or over a third of the value of the original wheat. This is true because mature livestock do not retain much of the fertilizing elements of the grain.

The corresponding figures for Washington oats are $5,871,857, having a fertilizer value of $3,419,872; barley, rye, spelt, etc., $3,384,544 with fertilizer value of $1,490,185; hay and forage, $17,147,648, whose fertilizer constituents are worth $12,058,072

Young growing stock retain more or less of the fertilizing elements so that 8-10 of these amounts are calculated as the actual value of manure from stock if fed the Washington crops. Better methods of saving and applying it are needed. This is especially true of liquid manure.

The New Jersey Experiment Station is cited to show that a plot receiving solid manure alone produced 43.9 per cent greater crop as an average of 3 years than a similar plot without manure; but a plot receiving both solid and liquid manure produced 83.4 per cent more. These increases are due to both the humus and to the plant food added.

Manure Increases Acidity.—Continual addition of stable manure and cover crops to the soil, and continual removal of crops so increases the acidity of the soil that something besides plant foods, moisture regulation, and humus is necessary. This is lime, to correct whatever acidity may have developed. Lime is applied as ground limestone, quicklime, and airslaked.

STANDARD PRUNES.

To the Editor: A good many questions are being asked about the Standard prune, but so few have yet come to maturity that it is hardly possible to form a fair estimate of its value. It is a prune of handsome appearance with a comparatively small white pit that is free from the meat. One man tells me it is as delicate to handle as the Imperial, while another says the skin is as resistant to injury from dropping or dipping as the French. Opinions seem to be united on the following points by Napa men: They are later in maturing than any except Robes; they do not fall readily from the tree when ripe; they dry out about three or four to one, and the wood is not so tough as the French.

I append a letter received from a well known fruit grower of this county who told me I could make what use of it I liked. It may be of interest to brother growers.

John J. Fox.
Napa County Horticultural Commissioner.

"In the spring of 1913 I put in a few grafts of the Standard prunes on an old tree. This September 3 I gathered 50 prunes. They were a little later than my other prunes, which include French, Imperials, and Robes. Of these 50 prunes, all were picked from the tree except one, although they were ripe and some of them were partly dried on the tree. Four of the 50 were badly cracked and three were slightly cracked. (None of the other varieties were cracked.) These 50 prunes before dipping weighed 72 ounces. I took them from the tray Sept. 16, and the weight was then 24 ounces although some of them were not quite dry enough to have been put away in quantities.

"The above shows some of the faults developed, but the prunes are of fine appearance and quality and when dry go about 38 to the pound. This experiment is too small to be of much value but simply shows my experience.

"Napa. S. H. Wyckoff."

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Fair Dealing in Marketing.

[Written for Pacific Rural Press.]

A woman fruit grower sent a beautiful sample of figs to a San Francisco commission merchant. They were extra large, uniform, well dried, and covered with the blue bloom which characterizes freshly dried black figs. He offered her the highest San Francisco fig price f. o. b. her shipping point "if the rest are like the sample." The shipment was sent and inspected. A few wormy fruits were returned to her with the announcement that the figs awaited her further orders.

A grain farmer picked out a sample of his crop and sent it to a San Francisco grain dealer, asking what he would give for the rest of the crop. In taking the sample, he almost automatically picked out the foreign seeds, the burs, and bits of straw. The grain dealer got stung by so many like him that now the only way he will buy grain is to get the local warehouseman to send him a representative sample. This hurts the farmer.

The president of a well known poultry association was called up one day by the secretary with the information that a large number of his eggs had started to incubate. He could not believe it, for all of his eggs were delivered within two days of when they were laid. Investigation showed that the bad eggs were from hens which were so fat that the eggs were not laid as soon as they were ready. Some hens carried several eggs all ready to lay, until the feverish condition thus caused weakened their appetites, and they became thin enough to lay the eggs.

These three instances are mentioned to show that there are two possible sides to the "dishonest commission merchant" question. However often many commission merchants may practice dishonesty, it is wrong to blame them for producers' intentional or unintentional wrong doing.

In the fig case, we were asked to take radical steps which the facts of the case certainly did not warrant. The figs were not like the sample—they were of all sizes, while the sample was uniform. They were shipped in cotton sacks and the first indication of trouble was the large spots of juice which discolored some of the sacks. These were caused by wet figs. The figs were wet because of one of two conditions. Several authorities differed as to whether they were last year's figs processed and mixed with the new ones, or whether they were simply not dried enough. Only three worms were found; no further search was made at the time. However, this was not conclusive evidence, except as to the fact that the figs were unsalable under the State law.

A representative sample of the portion of the shipment containing more or less wet figs was taken to half a dozen dried fruit dealers for comment. Following is the gist of the comments. They should have been practically like the sample on which the price was quoted. Last year's figs are likely to be wormy unless the moths which lay the eggs have been absolutely excluded. This is practically impossible unless the figs are processed to kill the eggs, some of which are laid even while the fruit is on the tree. Figs sold through dealers should not be processed so as to take the bloom off, for it creates suspicion and if the figs are left too wet, they will not keep until resold. Dealers prefer to do their own processing. They will not even quote on improperly dried figs.

In the fig case, the woman will probably never ship to that merchant again—and certainly he does not want her to. For every dissatisfied customer he gets, regardless of whose fault, is a bad advertisement for him. This is the first complaint we have heard against this merchant and he has shown his fairness by offering to pay for the figs whatever we should suggest. The suggestion we made was unfair to him, who had not at all wanted such figs as were sent, yet he cheerfully paid it.

Frank, fair dealing on the part of the producer puts him at least in a position where he can consistently kick if results are unsatisfactory. We would suggest to every one who submits a sample of goods for sale, to make that sample absolutely fairly representative of the goods.

A PRUNE CHALLENGE.

To the Editor: I gathered from one of my French prune trees that is seven years old eleven prunes which weighed one pound green. When the eleven were dried I found sixteen others from the same tree with the eleven made one pound. If any one has French prunes that will beat them would like to hear from them. **Subscriber.**

Healdsburg.

Bartlett Pear

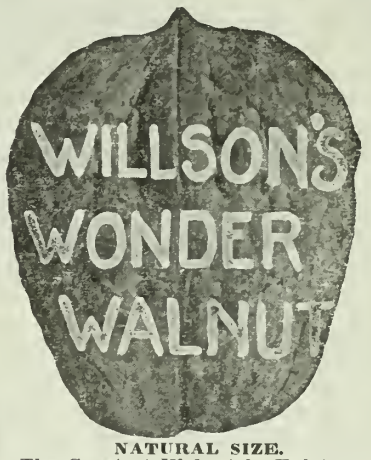
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Pruning Lowers Cost of Production.

[Written for Pacific Rural Press.]

Hopeful signs abound for the disposal of the next peach crop at fair prices. This means that the trees may well be better cared for than they have during the past few years.

Sunburn and decay are the two most universal destroyers of peach trees. Decay comes principally where pruners have saved time and lost trees. It takes two or three times as long to saw a limb off without leaving a prominent bump or stub; and it makes the tree live two or three times as long, because it permits the wound to heal over.

But we have seen wounds practically healed over, with the wood fibers filled with felty decay fungus. We have seen stubs which showed no sign of decay until the limb broke and revealed a rotten heart. To exclude the fungi which decay heart wood, all wounds on big limbs or on the trunk, which will not heal over in the same season, should be well coated with an elastic durable paint when cut and again before rainy weather each year thereafter. This will save limbs and trees, which would be hard to replace.

Sunburn, too, is due to faulty pruning. Where big limbs have broken from weight of crops on account of decay, or too great a load far out on the limbs, the center of the tree is suddenly opened to the burning August sun. The bark dries out too fast, hinders sap flow to the leaves and fruit, cracks and curls up to harbor insects and spores of disease and decay.

Pruning to Prevent Sunburn.—But the inside of the tree suddenly exposed to the August sun would not be damaged had the tree been properly pruned. The limbs and trunk should be protected by a summer overcoat of young growth. This can be obtained by keeping the tree open to sun and air from the beginning of the season. Growth of last year should be thinned out by cutting it off at its junction. It should not be cut back to a few inches as is commonly done, for this induces so many laterals that they shade the inside of the tree and smother the "overcoat."

The usual system of pruning thus places all the fruit far out on the limbs, out of reach of pickers; but, worse still, where it exerts powerful leverage to break the limbs. A weight at the far end of a big stick is much harder to hold up than at the near end.

Where the "overcoat" is permitted to grow, it sets fruit the following year. That fruit is close to its sap supply, makes the best sizes, needs the least thinning, cannot break the limbs or require props, and is picked mostly from the ground. The growth may be pruned easier and sprayed far more thoroughly so that the fruit is practically all marketable.

Such a system of pruning so lowers the cost of production that a profit is made even in seasons of low prices.

CUT PEAR BLIGHT NOW.

[Written for Pacific Rural Press.]

Just now is the best time of year to find pear blight and cut it out. The leaves are still hanging on blighted twigs, trees are least susceptible to reinfection from careless cutting because they are practically dormant, insects are not so numerous as they have been, and the rain is not yet soaking newly cut surfaces with drippings from other new cuts. It is easy to get around the orchard, and mud does not hinder following root blight.

In all blight cutting, remember that cloth disinfecting swabs are very likely to leave small surfaces on the tools undisinfected; also that wooden and certain metal buckets are affected by corrosive sublimate so that the disinfectant very shortly becomes valueless. Better not cut at all than to spread blight by means of tools.

FRUIT GROWERS' CONVENTION.

Preparations for the State Fruit Growers' Convention at Visalia Nov. 18 to 20 inclusive are proceeding well, arrangements being in charge of Tulare County Horticultural Commissioner Chas. F. Collins. Preceding the convention there will be held sessions of the state association of the county horticultural commissioners. One of the principal features of the convention will be the consideration of marketing; to this question an entire day will be devoted.

For the purpose of teaching practical irrigation and the care of pumping machinery, the Inglewood Union High School has just purchased an up-to-date turbine centrifugal pump from the Layne & Bowler Corporation of Los Angeles. The school is fortunate in securing a good pump as a part of its equipment.

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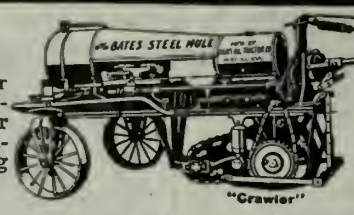


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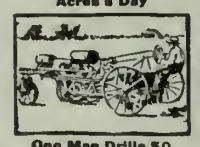
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Hen Manure for Fruit Trees.

[Written for Pacific Rural Press by Susan Swaysgood, Pomona.]

When hens are yarded there is a much greater accumulation of droppings than when they are given range. Where dropping boards are used under the perches and the accumulation of the yards taken out, it has been figured that sixty hens will give the farmer one ton of dried hen manure in a year. The lowest money value to this would be $5.00, giving every hen's earnings at the least nine cents for the year.

The day's droppings will lose some of their value in the ground, unless they are well supplied with litter, which will both save the ammonia from escaping and also save the ground from getting "sick." It It is a well known fact that ground where chickens run continually does get "sick," but if it is littered and cleaned out often it can be kept clean a long time. Then this straw litter is the very best kind of fertilizer for some shrubs and trees that seem to require a sort of mulch to make them grow.

Prune Trees Respond.—A test with hen manure on prune trees that were yielding small prunes, some years ago convinced me of its value in the prune orchard. With land as good as any in California and the best of pruning and cultivation, the prunes were small. After a few liberal feeds of hen manure the trees changed altogether and the prunes were larger and sweeter.

After one or two years of fertilizing with the droppings the trees were more thrifty, the foliage took on that dark green, healthy color that is natural to a well cared for prune tree and the fruit contained more sugar than usual. On plum trees it appeared to work equally well, but outside of improving the color of the foliage on peach and apple trees, I did not notice any difference.

Caution to Avoid Burning.—Around young growing trees we usually put a large bucket once a month, keeping far enough away from the roots or trunk that the droppings will not burn them. This it will do if put on carelessly as it is very strong. When colony houses are moved we generally take a cultivator and run it through the ground where the house stood so that the droppings mix well with the soil. If this is not done a great deal of the value goes out in the air as the drying process goes on. If not convenient to take the manure right out onto the ground and mix with the earth while fresh, the next best plan is to keep it in barrels or boxes and mix equal parts of dry earth or sand with the droppings. This dry earth absorbs the moisture that would otherwise escape and when all is put back on the land, one part is as valuable as the other. In prune orchards after the ground has been pulverized and put in shape for prune picking, it is not practicable to spread hen manure, so the only way is to store in barrels or boxes as stated until after prune season is over.

Three years ago this land I am living on was so poor you could not raise a disturbance on it. The neighbors say it had been planted with prune trees that did not produce; next to peaches that were as bad; then it was planted to rhubarb, "a get-rich-quick crop that sold the poor land for a thousand dollars an acre and that was what it was set out to rhubarb for, just as a bait to catch suckers.

But that has nothing to do with the quality of land. All that ailed it really was that it was starved. Not being a very good soil in the first place it had been robbed of all it contained and nothing put back on it. Since the rhubarb was plowed out and plenty of good hen manure put on it, we are raising all kinds of things, better than disturbances. Two year nectarine trees have fruit, three-year-old apple trees are full of fruit and next year I expect to have Imperial prunes. But I give all the credit to the hen droppings, and the facts show for it. One neighbor planted six Imperial prunes out of the trees I got for myself; he has given them abundance of water and cultivation but no hen manure, and the difference in growth is easy to notice.

CLEAN SOOTY OLIVE LEAVES BY SPRAYING NOW.

To the Editor What is the cause and prevention of the sticky dirty juice on the olive leaves and twigs enclosed?—P. B. V., Danville.

[Your trouble is black scale, of which there are a few in the samples. They exude a honey dew in which the sooty fungus develops readily. Scales may be identified by the distinct H on the backs of the mature ones. Spraying now will be best. Dissolve 30 pounds of fish oil soap in 12 gallons of water; boil it, and while boiling add 20 gallons 28 degree distillate, stirring thoroughly while adding. This makes a stock mixture which must be diluted with 20 times its volume of water when ready to spray.—Editors.]

A unit of the Stanislaus County Farm Bureau was recently established at Keyes, with S. C. Peck, president; F. L. White, secretary; and R. H. Russell, director.

Twenty-five thousand dollars is the estimated value of Kings county's honey harvest for the season just closed.

Now is the Time to Order

FRUIT TREES

By ordering NOW—from us—you will be assured of the best stock and lower prices than you will be quoted later in the season. All our trees are propagated from proven-bearing orchards and scions are selected by specialists. Stock grown in the Santa Clara Valley can't be surpassed.

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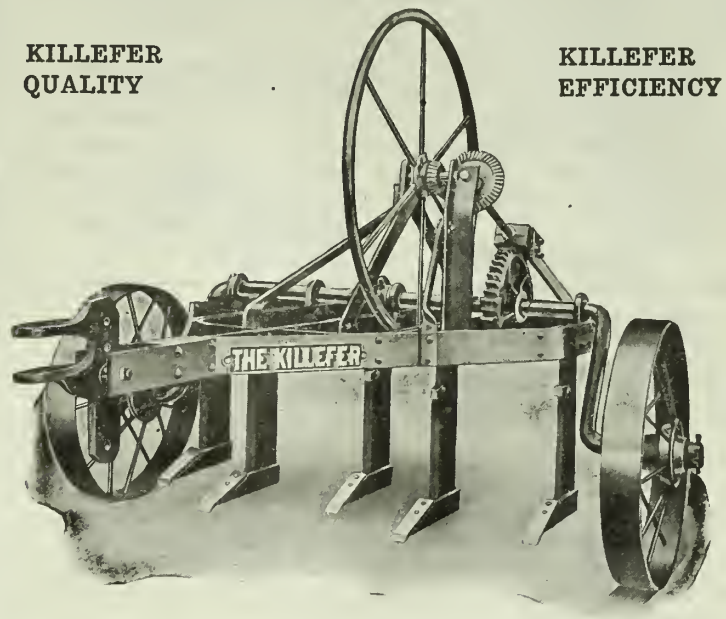
The Nursery That Helped to Make Santa Clara Valley Famous.

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Increase Your Alfalfa Crop 30 Per Cent

KILLEFER QUALITY

KILLEFER EFFICIENCY



Subsoiling is generally conceded to be of great benefit to the soil in any country, but more especially in our Western States, where the ground is never frozen, but is packed from year to year, making it very hard and allowing a large percentage of the natural rainfall to run off, that would be absorbed if the ground was broken up to receive it.

The use of these tools in preparing ground for raising grain has proven a thorough success and the value of their use on ground for Alfalfa and other crops cannot be questioned.

The above tool is built in sizes of Three to Seven Standards, and will work to a depth of twenty-four inches, thoroughly breaking up the ground and putting it in the best possible condition to hold the moisture for the crop following.

The Killefer Manufacturing Company

2209-21 Santa Fe Ave., Los Angeles, Cal.

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Sign and mail the following Coupon and you will receive all information desired.

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I am interested in a Motor Truck.

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P.R.P.

IN VIEW of the high lifts common in southern California, where water is being pumped for irrigating alfalfa with a lift of 100 ft. and for irrigating citrus fruits with a lift of 200 to 400 ft., it would seem that a very considerable increase in the number of plants can be made in the present pumping districts of the Sacramento Valley. . . . Although it is possible from geologic evidence to determine for any part of the valley the general distribution and character of the water-bearing beds, the precise location of these beds and their value as sources of water can be determined only by sinking wells.

Statistics of ground water irrigation in the valley gathered by the author indicate that there are 1,664 pumping plants irrigating a total area of 40,859 acres. The total power is 15,142 horsepower, of which 10,685 horsepower is electrical and 4,457 horsepower is internal combustion or steam power. The average power per plant is 9.1 horsepower, and the average area irrigated for each plant is 24.5 acres. K. Bryan.

U. S. Geol. Survey 1915.

Mechanical Power on the Farm.

[Written for Pacific Rural Press.]

TRUCKS HELP BUTTER MARKET.

"We are telling patrons every day that we must make butter that will score 93," says N. J. Beck, manager of the Visalia Co-operative Creamery. "Los Angeles requires only 91 to grade as extras, but will soon have to come up to 93 as San Francisco has. Today we have 7,000,000 to 8,000,000 pounds overproduction that we've been sending to Australia but that won't last long and then we must compete with the best butter in the world by shipping it to the East and to Europe. If it scores only 90 or 91 we can't get it out of the western market; but if we make butter that will ship to foreign countries, we can demand our own price.

"Farmers are going to suffer and suffer heavily if they do not produce No. 1 cream. We used to get lots of cheesy, stringy cream, but practically none of it comes that way now and we are making about 4,000 pounds of butter per day."

Paying a higher price for good cream than for bad has induced patrons to take better care of their cream at home, but a most important feature of the new regime is the every-day collection of cream.

"No more 2-day cream for us. We must make butter every day in this valley to make it score 93."

The daily collection is made possible by use of auto trucks. Two of these have 1500 pounds capacity but carry double that much, and four are small automobiles converted into trucks.

"A man covers twice the distance now. It used to take a driver two days to make his route—now he collects from all of the same people every day."

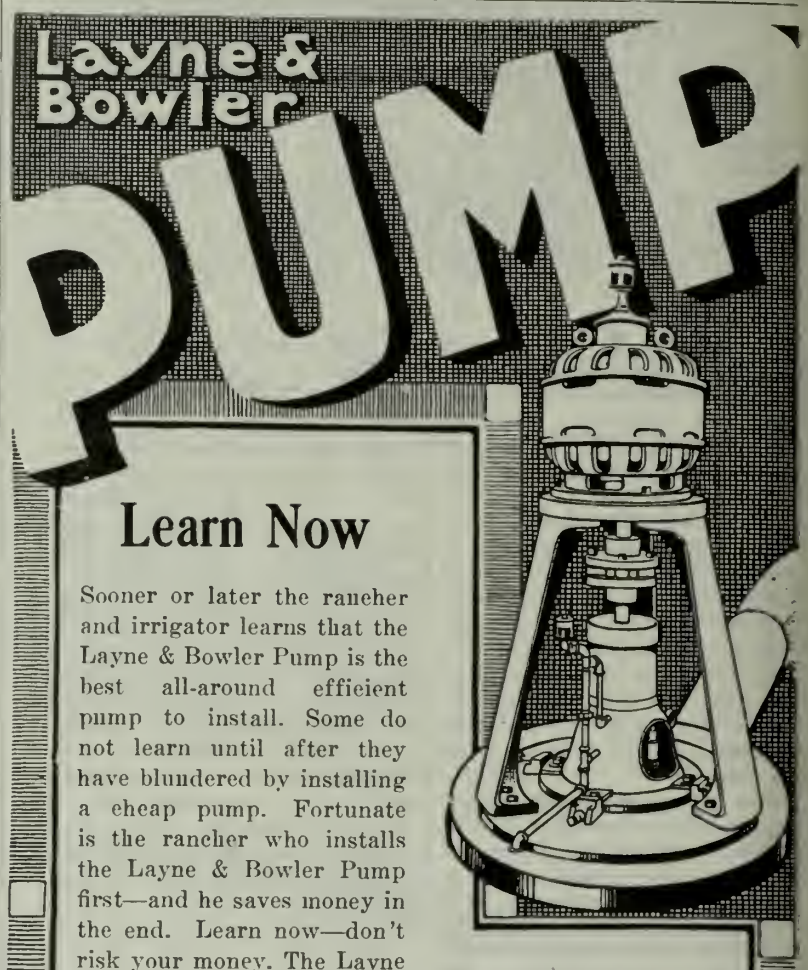
POWER FOR MILKING MACHINES

A 1 h.p. electric motor was set up at the Exposition cow barn at the orders of J. L. Smith of Washington State before his herd arrived, so that it would be ready to connect to the pump and milking machines he brought along with the herd. His cows have never been hand milked at home except for the first two or three times after calving, when the milk is too stringy to work well in the tubes. The motor is used simply to run a small rotary vacuum pump which draws air from two milking machines via pipes over the stalls through a 5-gallon airtight tank and out through an exhaust. A gas engine was used at one of the northern fairs for the same purpose. The tank is used to cushion the jerks on the air vacuum occasioned by the stopping and starting of machines when changed to other cows. In the Carnation Stock Farm's view exhibit, the pipes over the stalls are so large that there is enough cushion in them so a tank is unnecessary. There, with six machines going at once, a 2½ h.p. motor is used. This is recommended where six milking machines are used on the farm, because one who has the power machinery at hand is sure to be using it on the separator and other farm machines. Separating is usually started before milking is finished so that 2½ h.p. is little enough. About a 15-inch vacuum is maintained during milking. If it runs too strong, a safety valve admits air to the right amount.

Milking machines never get drunk, are always there on time, do not strike, save time; and if thoroughly cleaned, make possible the production of absolutely clean milk. The power which runs them may be used about the farm the rest of the day.

TRAVELING CRANE.

A traveling crane to pick up anything from bulls to automobiles is rigged on six 8x8's about 12 feet tall on the J. S. Gibson farm in Colusa county. The 8x8s are set three in a row, the rows about 10 feet apart. An I beam about 24



Learn Now

Sooner or later the rancher and irrigator learns that the Layne & Bowler Pump is the best all-around efficient pump to install. Some do not learn until after they have blundered by installing a cheap pump. Fortunate is the rancher who installs the Layne & Bowler Pump first—and he saves money in the end. Learn now—don't risk your money. The Layne & Bowler Pump is the best investment you can possibly make, as all leading irrigation authorities will tell you.

Write for our new Irrigation Booklet No. 25. It gives valuable pumping information and explains in detail the construction of the Layne & Bowler Pump. It's free.

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Write for Catalog No. 47 F

For Water Deep Under The Ground

Jackson Deep Well Turbine Pumps give continuous and efficient service. They do not get out of order as they have no valves or plunger rods. Very little care or attention needed as they are oiled from the surface. Are much lower in cost than other types of deep well pumps when the expense of dug pits, cribbing and timbering is reckoned. They raise water from the very bottom of the well, thus eliminating heavy vacuums and delivering all the water the well yields. They develop slow wells and increase their flow.

Like all Jackson Made Pumps These Deep Well Turbine Pumps Are the Very Best Pumps Made for the Purpose—They are Dividend Earners, Not Expense Makers

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Prompt Shipments Anywhere

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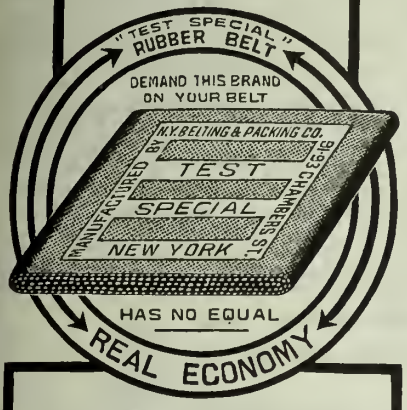
P For Every Purpose NEW Threads & Couplings. Hot Asphaltum I Second Hand and NEW P Screw Casings Fittings and Valves Guaranteed for Pressure E

Pacific Pipe Co.

Main and Howard Streets. San Francisco, Calif.

feet long rests on top of each row. These make the track for an I beam laid across them. A cog attachment run by an endless chain from the ground moves this cross beam to any position from one end of the frame to the other. A Triplex chain block hangs from the cross beam. One man can lift most anything that can be run under the block and hooked to it. When a bull is to be loaded onto the wagon, he would likely tip endwise in the lifting, so a light chain block is hung to the beam to balance him in a sling. Mr. Gibson does quite a business with the home made outfit and finds it most convenient.

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We Want to Send You a Sample FREE



We want every user of belting to know just how to test rubber belt—How to know that he is getting a belt that will do what he expects of it—That will do what is claimed for it. There is a sure test for rubber belt. We want to send you a little folder that tells you how to apply this test. With this folder we will send you a sample of

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We ask you to test it—to test the the belt you are now using—to test any belt you are asked to buy. Then judge which is the belt you should put your money into.

Back of every foot of **Test Special Rubber Belt** is the experience of nearly three-quarters of a century of know-how, a factory with a reputation for making nothing but the best.

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Please mail me the little folder
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Also a FREE sample and price of your "Test Special" Rubber Belt

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COMBINE TO USE SILAGE CUTTER.

A silo club composed of ten neighboring ranchers around Bishop, Inyo county, including ten silos, is made possible and profitable by using one large portable silage cutter to fill all of them. Previous to these silos, which are of the wooden types, there has never been any in Bishop Valley except a large stone one built by W. D. Roberts 25 years ago. This has always been a great pride and profit to Mr. Roberts. Members of the silo club are mentioned as an example of enterprising farmers who might otherwise have waited years before getting this profitable form of feed: Collins and Young, Fred Hess, J. F. Pearson, C. P. Stutting, Wm. Compton, Wm. Roan, W. Chapman, G. B. Hogle, A. Garnier, and Wm. Rood.—C. F. Barnum.

ENGINE RUNS DYNAMO.

A gas engine runs a dynamo to generate electric power to do the pumping, separating, grinding, illumination of house and barns, and a thousand other things to save hired help on the farm. Such a generating outfit, compactly built, may be seen at the Bean Spray Pump Co.'s exhibit in the Horticultural Building at the Exposition. It is a Bean 10 h.p. opposed gas engine direct connected to and on the same solid iron base with a dynamo which generates 70 amperes at 107 volts pressure, running 600 revolutions per minute. This delivers 7,490 watts of electric power equalling practically 10 mechanical h.p., but in such a form that small wires can lead it to whatever place it is to be used through a motor.

TRACTOR PERMITS EXPO. VISIT.

"I've been plowing 30 acres a day with my Caterpillar. That's how I was able to come to the Exposition cattle show," said R. E. Watson of Stanislaus county. He recently plowed 600 acres for summer fallow at a cost of 26 cents per acre for labor, gasoline and oil. Half of it had not been plowed for years, some of it not for 18 years.

Since an hour of head work on the farm may save a week of back work, and since a week at the World's Fair fixes higher and more nearly correct ideals of breeding which may be worked out to the ultimate improvement of the herd, Mr. Watson's tractor has improved his chances of success in cattle breeding and in farming generally.

PANEL GATE DEVICE.

To pull the sliding 1x3 which usually holds a panel gate shut, Henry Springer of Tulare county bolts a vertical 1x3 to the slide and to the panel board below it. This vertical arm extends upwards across the space above where it is handy to grasp and pull the sliding fastener.

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Perfection Oil Heater

A sure remedy for the cold, damp days. Inexpensive to operate—easily carried from room to room. Smokeless and odorless. Dealers everywhere.

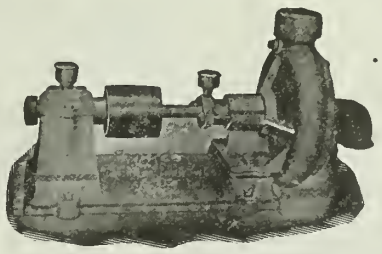
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Price	$16.00	$20.00	$25.00	$30.00	Oakland

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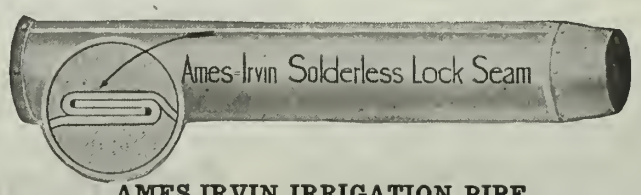
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LESS WORK AND LESS EXPENSE



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Seams are locked under 3500 pounds pressure.
Awarded first prize at State and County Fairs.
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It gives full information. Write today.

AMES-IRVIN COMPANY
8th and Irwin Streets, San Francisco.

General Agricultural Review.

CITRUS AND SEMI-TROPICAL.

H. W. Blaisdell, who owns a large orange grove in Arizona, is in Tulare county securing data on the sweating of early fruit.

Frank Brown of Los Angeles recently traded his orange grove near Naranjo, Tulare county, for 480 acres of alfalfa land east of Stockton belonging to Geo. E. Waddell and son.

It is stated that the Government will double its force of inspectors this year in the citrus districts to enforce a rigid adherence to the 8 to 1 standard of maturity test; shippers violating this rule will be subject to arrest, and their fruit will be confiscated.

Two carloads of lemons were recently shipped from Porterville by Parr & Shippey of the Zante district to the eastern markets. Not more than 90 per cent graded in the 300 size, which as far as is known is the highest average for any similar sized shipment from Tulare county.

DECIDUOUS FRUITS.

The Eighth National Apple Show will be held in Spokane, Wash., the week of Nov. 15.

Kings county peach growers recently met and subscribed over $4000 to the million dollar peach organization.

The fruit shipping season at Vacaville has closed; 877 carloads were shipped this year as against 774 last season.

Ball Bros. of Cupertino report that they refused 4½ cents for their French prunes recently; they are holding for 5 cents.

The Modesto Cured Fruit Association recently shipped a carload of figs to their plant at Berkeley where they will be prepared for the retail trade.

The Tudor section of Sutter county, which formerly was devoted largely largely to wheat raising, is now becoming one of the leading fruit sections of the county; the value of fruit products from that section this fall is estimated at $50.000.

GRAPES AND SMALL FRUITS.

About one hundred tons of raisins are being received daily at the Hanford plant of the California Associated Raisin Company.

R. L. Nougeret of the U. S. Dept. of Agri. who has charge of the phylloxera experiment station at Walnut Creek, will shortly commence experiments in Kings county for the control of the mealy bug.

According to Chas. E. Virden, manager of the California Fruit Distributors, 250 cars of wine grapes have been shipped East from California this season; this is the first time in history that such sales have been made.

Owing to the shortage in cars brought about by the closing of the Panama Canal, the Associated Raisin Company is having difficulty in handling the raisins that are being offered by the growers and they have been urged not to rush their crops to the packing houses.

OLIVES AND NUTS.

The Banning Almond Growers' Association reports the shipment of more than 100 tons of nuts this season and 75 tons still to be shipped.

The Arbuckle Almond Growers' Association recently received an order from the State Exchange for 25 sacks of IXLs for shipment to China.

A meeting of the California Ripe Olive Association was held at San Francisco on Oct. 29; and growers throughout the State were urged to send representatives to the conference.

The Corning Olive Growers' Association at Corning is making improvements in its plant; a cement and galvanized iron pickling shed, 30x60 feet is being erected at this time.

J. E. Gage, formerly superintendent of a large olive packing company in southern California, has been engaged as manager of the olive processing this fall and winter at the Porterville cannery of the Tulare County Growers' Association.

Within the next 30 days olive canning will be started at the Porterville plant of the Tulare County Growers' Association. The crop is estimated to be the largest ever grown in that district; therefore, only the very fanciest fruit will be handled.

GRAIN AND FIELD CROPS.

The El Dorado Nursery of Cupertino shipped 65 fifty-pound lug boxes of cactus fruits to Chicago this season.

It is estimated that the lima bean crop in the immediate vicinity of Santa Barbara will amount to almost 85,000 bags this season.

Thousands of sacks of seed onions are being shipped from the delta lands daily to points in the Sacramento and Santa Clara valleys.

A. E. Liehau planted fifteen acres to sugar beets on an unirrigated tract in the Oakdale district this season and received more than $100 an acre from the sugar company.

It is estimated that the rice yield in the Sacramento valley this year will amount to 1,000.000 sacks; this is the biggest yield ever known in the valley.

Fifty acres on the A. M. Standish ranch near Milpitas have been planted to broccli, a shipping variety of cauliflower. This is the first commercial planting of broccli in that section.

The plant of the American Beet Sugar Company will shortly close its season; to date over 70,000 tons of beets have been put through the mill, the daily average being about 1050 tons.

W. H. Welisch & Co., Inc., of San Francisco have opened a rough-rice department in Biggs; as this firm has selling connections throughout the world, an immense market is opened to Butte county rice.

MISCELLANEOUS.

The Lindsay-Strathmore Irrigation project was voted on Oct. 23 and carried by a large majority.

Paul Dougherty has been appointed by the University of California to assist Farm Adviser N. P. Searles of Yolo county.

The Semi-annual Counties Convention of the California Development Board will meet at San Diego on Friday and Saturday, Nov. 12 and 13.

The twenty-nine prize winners of the high school boys' agricultural clubs left for their eastern trip on Oct. 17, to be gone from California for a month.

The American Trona Corporation is making arrangements to establish a plant for the production of potash at San Pedro; Germany was the former source of supply for that product.

J. B. Van Nuys, the Los Angeles capitalist, has increased the water supply on his San Gabriel property. He has just had a fine Layne & Bowler turbine centrifugal pump installed. The pump is said to be one on the best suited for this locality.

NOVEMBER EXPOSITION CONVENTIONS.

The following list of the conventions to be held during the coming month will give a good idea of the subjects to be covered: American Milch Goat Record Association, 3; American Poland China Record Association, 3; Romney Sheep Breeders' Association, 4; Continental Dorset Club, 5; National Swine Growers' Association, 5; American Rambouillet Sheep Breeders' Association, 5 and 6; American Southdown Breeders' Association, 6; American Hamp-

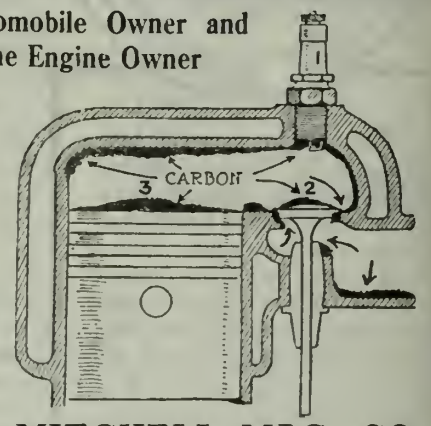
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and clean his cylinders and valves himself. It means saving him money and time. Our $1.00 box of 48 pellets cleans a 4 Cylinder engine 6 times. Average cost 16c. You know what the usual way costs. Absolutely harmless in every way.

If your local dealer don't sell it, don't accept any other kind, but send in ONE DOLLAR in Money Order, Check or Stamps, and we will mail you a box prepaid. Send today. Don't put it off.



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In *THE TIME* and *THE WORK* and *THE COST* of Leveling Your Farm

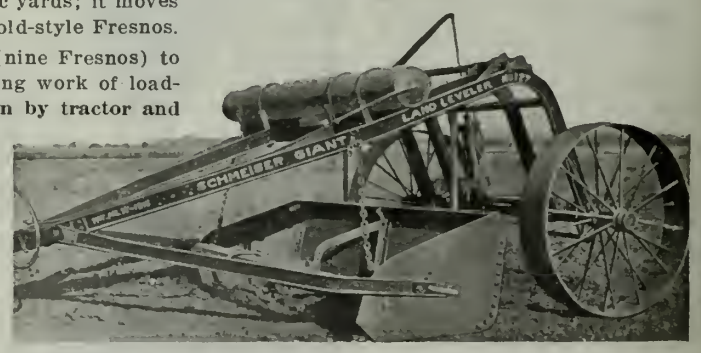
TIME SAVED—Its capacity is 4.35 cubic yards; it moves as much soil per load as do nine of the old-style Fresnos.

LABOR SAVED—No thirty-six horses (nine Fresnos) to hitch or unhitch; no heavy back-breaking work of loading and dumping scrapers. It is drawn by tractor and operated by compressed air.

MONEY SAVED—No horses to feed; two men, instead of nine to employ.

THEN, TOO—a Schmeiser Land Leveler will work on ground which is too hard and rough and full of old tough roots for Fresnos and horses to touch.

AND—it will put into shape for cultivation acres of your land which you have heretofore considered too uneven to block out—too cut up with draws and gulches, or too marshy and boggy to reclaim.



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THREE SIZES:

The "Giant"—with an 11-foot bucket.
The "Junior Giant"—with an 8-foot bucket.
The "Midget"—which has an 8-foot bucket of a different style and can be used with tractor or 10 head of horses.

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IS an investment—not a speculation.
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Dept. A-13.
433 California St. San Francisco, Cal.

shire Swine Record Association, 6; American Hampshire Sheep Association, 8; American Oxford Down Record Association, 8; The National Duroc-Jersey Record Association, 9; American Angora Goat Breeders' Association, 9; O. I. C. Swine Breeders' Association, 10; American Tamworth Swine Association, 10; Patrons of Husbandry, National Grange, 10 to 19; Northwest Angora Goat Association, 11; Chester White Swine Record Association, 11; The American Shropshire Registry Association, 11; National Mohair Growers' Association, 11; American Berkshire Congress, 12 and 13; American Yorkshire Club, 15; Conference of Irrigation Experts under the auspices of the American Irrigation Association.

EXPOSITION TALKS WITH STOCKMEN.

Prof. Gordon H. True pointed out that there was only one thing better than the demonstrated excellence of today—that is a well founded hope for the future. He pointed out the rapid increase of Guernsey herds in California in the past three or four years.

A. J. Glover of Hoards Dairyman (Wis.) noted the attitude of many farmers. "It is too much work to milk a cow three times a day. Too much work to feed cows properly for greatest production; too much work to provide air, light, and whitewashed stalls; too hard on the land to cut three crops alfalfa per year." "Why, bless your heart, what do you keep your cows and land for?"

Ed. Carey of Oregon made the points that we will get the combination of dairy type and high production sooner if we buy and breed for production first and for type second. In buying a bull look first for production in his ancestors as far back as possible, and then take him if the conformation is good. Better have a medium type than either extreme of coarseness or refinement.

Mrs. Ada Howie of Wisconsin emphasized the need of loving cows to make them do their best. She advises the beginner to start with few enough so that his work never drives him and he will not get discouraged.

Miss M. L. Eckles of Glendora emphasized the need of varied ration, saying that alfalfa alone for three years would kill a cow, at least would destroy her further usefulness except in some cases where five years would be the extreme limit. She is exhibiting a bull 17 years old.

A breeder was overheard remarking that his partner is getting wise. He "used to wouldn't" have a cow unless she was most typey of Island breeding, but now he won't buy a cow or bull without records for their own or their ancestors' production.

C. D. Hayworth came to Wood colony, Stanislaus county, 11 years ago with $200 and 10 Jersey cows, part grades, part purebreds. He now has 23 head two years and over, on a forty-acre farm. He recently put up a modern barn of which he is proud. "I didn't have to mortgage the farm for it, either." He is putting all of his cows on yearly test as they come in.

All of W. J. Hackett's Jersey cows are in the Register of Merit except 10 now on test. Some of these latter have already produced more than the required amount while some are just started, but all are doing finely. Some of the heifers finished with over 300 pounds fat, though only 250.5 pounds are required for two-year heifers and 287 pounds for three-years.

That Ayrshires are becoming important in California is shown by the several prizes won by the herd of E. B. McFarland of San Mateo, whose herd is founded from that of J. W. Clise of Oregon.

A determined effort by Pres. M. D. Munn of the American Jersey Cattle Club to have the membership fee reduced to $50 in order to attract more actual farm breeders, met defeat but the question will come to a vote again in a few years.

Thos. Dempsey, Jersey judge from Ohio, gave special praise to five of Guy Miller's cows, saying they could scarcely be surpassed by five cows of any breed owned by any one man.

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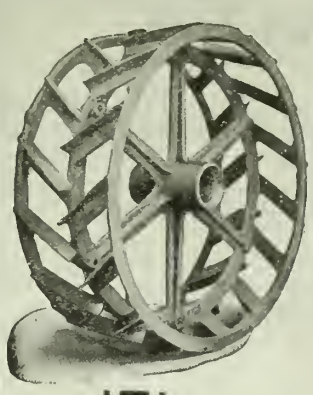
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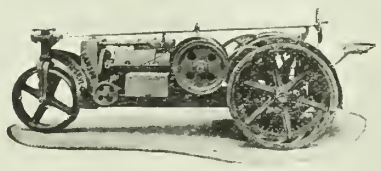
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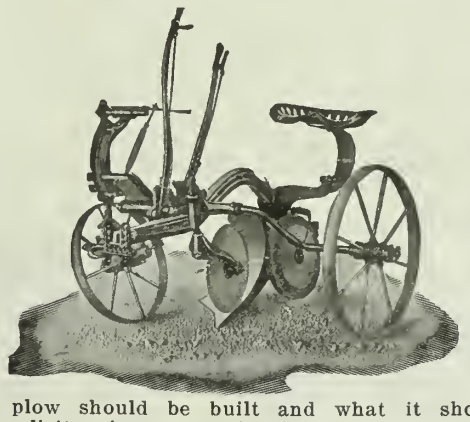
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Skim Milk for Poultry Feed.

[By Geo. H. Croley, President Federated Poultry Assn. of California.]

To the Editor: I would like to know the value of skim milk as a poultry feed and best method of feeding.—J. J. K., Kerman.

[After providing for average non-assimilation and deducting the amount necessary for the maintenance of the hen, one hundred pounds of skim milk has an egg producing value of 55 whites and 18.5 yolks when fed in a properly balanced ration; these values total 73.5 egg maker units. Good meat scrap supplies 1010.5 units and dried ground green bone 536 units, therefore a good commercial meat scrap, that does not carry an excessive amount of bone, is worth about fourteen times as much in feed value as skim milk; on the basis of $3.50 as the price of the meat, the skim milk would be worth 25 cents per hundred pounds.

There are so many ways in which milk can be fed under varying conditions that it is not practical to go into details here; but in a general way we will state that it may be placed before the fowls so they can drink it, but best results usually follow feeding in a mixture of other food stuff; unless quite sweet it is well to make it into cottage cheese and dispose of the whey as waste. Several who have added the whey to the feed report bad results.]

Poultry Breeders Directory

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

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to your pullets as well as your hens, commencing at the age of three months.
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POULTRY NOTES.

[By Geo. H. Croley, President Federated Poultry Assn. of California.]

H. D. Burmaster will offer no chicks for sale this season, but will operate his hatchery to supply future stock for his own flocks.

A Santa Clara county correspondent reports that during the present season Chas. H. Vodden has shipped 100 Barred Plymouth Rocks to Australia and New Zealand; and that Wm. J. Schmidt recently forwarded three dozen White Leghorn pullets to the Philippine Islands.

At the regular monthly meeting of the Arizona Poultry Association held at Phoenix, Oct. 9, the plan of selling eggs backed by the guarantee of the Association was discussed.

An electric tester, for testing eggs during incubation, has been patented by F. W. Dobbel of Sonoma. The inventor states that with this instrument from 60 to 100 eggs may be tested per minute. Instead of removing the eggs from the trays, the tester is run lightly on the eggs. A contract for making 500 testers has been given to an eastern firm.

I. N. Foss, manager of the Tulare Co-operative Poultry Association, states that a show will be held in Tulare sometime in December or January. The business of the Association during September made a gain of $849 over that of the corresponding month of 1914.

The Petaluma Poultry Keepers' Protective Association has offered standing rewards for arrest and conviction of poultry thieves. These rewards range from $50 where the thefts amount to not less than five fowls, up to $500 when the theft amounts to over fifty fowls.

Mrs. J. B. Tupper of Ceres has recently imported a pen of White Plymouth Rocks from an eastern breeder. The hens have a trapnest record of 212 to 226 eggs and the cockerel that heads the pen is a son of Lady Show You that made a record, at the Missouri laying contest, of 281 eggs.

The Pebbleside Poultry Farm of Sunnyvale recently sold 41 Rhode Island Reds for $341.

A Sonoma county correspondent reports new interest in poultry raising since the price of eggs has advanced; there is an unusual demand for pullets at good prices. The hatcheries are anticipating an increased demand for baby chicks.

Tuesday, Nov. 16, is Poultrymen's Day at the Panama-Pacific Exposition.

The convention of the American Poultry Association will take place during the third week of November; the fortieth annual meeting will be held on Nov. 19, at 2 o'clock p. m., at the Inside Inn on the Exposition grounds. Other meetings to be held are as follows: Nov. 18, American Buff Plymouth Rock Club and Pacific Coast Division of the same club; American Buckeye Fowl Club; Nov. 20, Buff Minorca Club of America; Nov. 24, American Cornish Fowl Club; American Pigeon Fanciers' Convention; Dec. 2, National Pet Stock Association of America.



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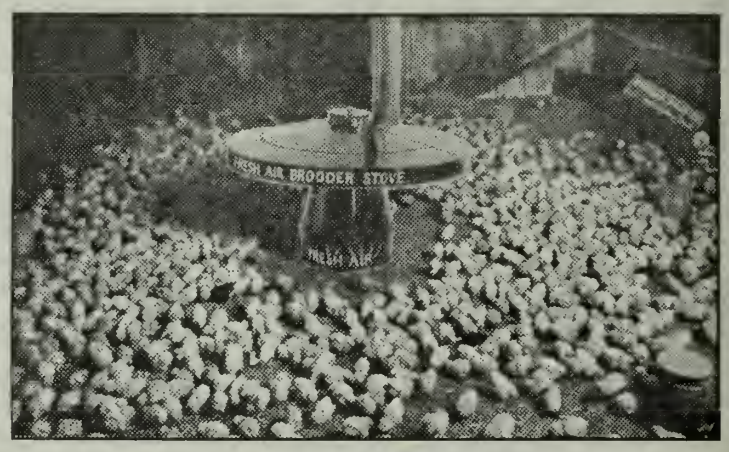
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Farm Poultry for Profit.

[Written for the Pacific Rural Press by Susan Swaysgood, Pomona.]

This is the time when egg prices begin to soar and the man with a good bunch of pullets ought to be paying back feed bills and lining his pocket, too. But as a rule, outside the large poultry plants, the pullets hang shy.

Just get it in your head that you can't get many winter eggs with pot luck management or feeding and running all sizes and all kinds together. This is the one great stumbling block of the small poultryman or rancher. He mixes both sizes and varieties and it won't work out. Pick out all the likable pullets as near one size and age as possible and yard them, after first preparing the ground for them. If you have already grown fowls in that yard, especially males, dig or spade it up and sow a little barley in it before putting in your pullets, spray the house and take away all odor of the last bunch, as near as you can. Then put in your pullets, dust them, and commence to feed them well. Give them a fairly good mash. Allow at least 10 per cent beef scrap, or a mixture of fish meal and beef scrap. You may have to increase it, but that is strong enough to start with. Plenty of green feed, nice and succulent, and grain fed in litter to make them exercise. Give water fresh from the hydrant in the morning, with plenty of grit, shell, and bone, and you will soon see those pullets begin to wear rosy combs and hear them talking in a morning to each other.

There is not anything better than milk of any kind to develop the pullets, and bring them into laying condition. Just feed it in the pan, in the mash, or any way that is convenient, and if you see to the other items you will get eggs galore.

The next best thing to milk to start pullets laying is green bone fresh from the butcher. This is the nearest thing we can get to the natural worm and bug the hens should find but don't. In feeding the green bone, however, we must use discretion, as too much would be harmful. About half an ounce to one grown hen or pullet is plenty at one time; this can be repeated three or four times a week, but it is not safe to feed more.

All condiments, such as mustard, pepper, and stronger drugs, are to be used with care. They are really both tonic, stimulent and irritant, according to the quantity fed, and it is hard for the average feeder to draw the line. Even in buying ready-mixed poultry tonics, that are supposed to be, and in many cases are put up in right proportions to give valuable help, the feeder does not always give the right quantity.

Plant Mustard Now.—In feeding green mustard or radish pods, or any green feed that contains warming or stimulating qualities, there is never any danger of irritating the bowels, because the hens know when they have had enough and will leave it. These are natural stimulants and they are the best by far for all purposes. Now is the time to plant some giant mustard seed and get a crop of hen fodder started that will bring eggs without hurting the hens.

Some men can't believe that pullets can be started to lay without some of these things to give them "a jolt." Others think putting a good lively cockerel in the yard will start them to lay; all these things are outside things that never add one particle to the egg. It is just like a woman putting dope on her face to remove wrinkles. The only way to remove wrinkles is to feed the muscles and the skin, and the only way to start pullets laying is to feed them just what the ovaries need to mature and develop them and form the eggs.

If the land is short on mineral substances and the pullets are not served enough to offset this lack, this is another reason why pullets will not start to lay when they supposedly ought to. If the land lacks iron the pullets should be given iron in some form; if lime, give them broken plaster, air-slacked lime, and a grit that contains lime. There are several forms of iron, but about the best one for common use is powdered sulphate of iron, given in the mash in small doses.

But the main thing is to know what is lacking in the bill of fare. Too many changes are not satisfactory; and if you are getting good results with one feed or mode of feeding, it is best to stay with it. If on the other hand, you are not getting results, then it pays to find out why, and then remedy it.

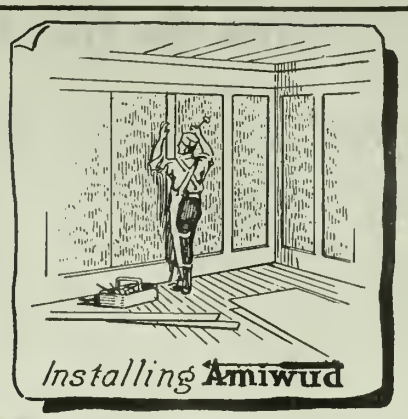
Sores on Turkey Heads.—My young turkeys are four months old and two weeks ago their heads became covered with sores that look like warts. Their bodies are clean, but their heads are simply covered with these hard-looking sores. Two have died already and the others are all sick. They eat little, but drink heartily. I have been feeding quite a few peaches; they also have wheat, clabbered milk, and green alfalfa. What can I do for them?—Subscriber.

This is common chicken pox. I had hoped that last year's epidemic would have died out, but it seems it is just springing up again. Get a little tincture of iron and put about ten drops to a quart of drinking water for all the turkeys. Keep this up for one week, clean up your yards, and if you have not go too many to treat individually, catch them and dip their heads in 72 parts of water to one part of Kreso Dip Number 1. After dipping the heads, wipe them dry and smear with carbolated vaseline; that will fix it and you will have no more trouble, but you must clean up all filth.

If you have too many to dip individually, mix up a bucketful of the solution and at night go out to the roosts and spray the heads and plumage with the solution. They wipe the heads on their feathers and clean themselves, but you will have to do this two or three times to effect a cure. Chicken pox is bad and everybody should be on the lookout and catch it in the early stages.

At a recent conference it was decided to change the date originally set for the Kings County Poultry Association Show to be held in Hanford. The new date was not decidedly fixed, but it will probably be between the fifth and ninth of December.

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With the Live Stock Men.

DAIRYING.

The Milbrae Dairy will erect this fall a new barn for housing their cows on official test.

An eight-months-old Holstein calf was sold at Cortland, N. Y., for $10,300. His sire is King Segis Pontiac Alcartra and his dam Woodcrest Peterke Elma.

W. B. Smith of Modesto has been using a purebred Guernsey bull on 13 half breed heifers and 5 other cows. He will sell some of these as soon as they are producing and invest at first in a couple of purebred heifers.

F. B. Wulfe of Modesto has a purebred Jersey heifer which freshened last June aged 12 months, 18 days. Three months later the tester of the cow testing association recorded a production of 12 pounds milk in one day, 7 per cent fat.

T. A. Hall of San Jose reports that Cream Cup Vogelschen Cornucopia 180311, three years old, just recently made a record of 25 1-3 pounds butter in seven days. Her seventeen half sisters sold at the Hanford Consignment Sale for an average price of $560.

Seventeen daughters of Colantha Sir Pontiac Aaggie, who now stands at the head of K. W. Abbott's Holstein herd at Milpitas, were sold at the Hanford Consignment Sale for an average price of $560 each. Two of his daughters sold for more than a thousand dollars.

The September report of the Stanislaus Cow Testing Association shows 93 cows on the honor roll with two Jersey cows leading the list: Lucy, owned by F. D. Keeney of Hughson, making 70.5 pounds butterfat and Pet, owned by Genzoli, making 68.4 pounds butterfat. The highest Holstein, owned by M. E. Sandos, made 68.1 pounds butterfat.

Laura J. Frakes of the Panama-Pacific Dairy at Sutter Creek reports the following: "The first heifer to freshen sired by Pontiac Prince Inka, our herd sire, has given us a beautiful heifer calf, sired by Pontiac Chief. The dam is giving seven gallons of milk per day and this is her first calf."

Tilly Alcartra has just completed the first six months of her fourth year's test with approximately 16,400 pounds milk and 650 pounds butter. No effort is being made this year to crowd her for maximum production. At this time she is producing over 80 pounds milk daily.

T. Freitas and Jos. Silvey of Stockton and F. C. Serpa of Hayward have purchased the controlling interest in the Nunes-Freitas Dairy of Roberts Island, San Joaquin county. This is the largest dairy in the county, occupying 450 acres and consisting of about 400 head of cows.

H. T. Robb of the Milbrae Dairy is looking forward with interest to the freshening of the daughters of their herd sire, King Pontiac Musa Netherlands, son of King of the Pontiacs. His three closest sires have 390 A R O daughters, consequently something pretty good is expected from the offspring of this young sire. It is the plan to put every cow in the herd in the Advanced Register.

CATTLE AND SHEEP.

The Porterville Alfalfa Co. of Porterville recently shipped 300 head of steers to San Francisco.

The Spreckels Co. recently brought down 55 carloads of cattle to their ranches in the Salinas valley to be fattened on the beet tops.

W. R. Belknap of Tulare recently sold forty head of feeder steers for R. Schwartz of Tulare to Otis Lockhart of Los Angeles, who will ship the cattle to his ranch at Bakersfield to fatten for the market.

Cattlemen owning ranges on the Klamath river and its tributaries, Siskiyou county, are seeking aid in the extermination of noxious weeds which are causing the death of cattle valued at many thousands of dollars.

D. J. Stollery, assistant manager of the Paicines Ranch, reports that they have purchased the famous Shorthorn bull, Champion of Scotland, to be imported as soon as the quarantine is raised, for service in their herd of 200 breeding cows.

HORSES AND SWINE.

E. S. Nott of the Alta Mesa ranch, Los Altos, has lately purchased two young gilts and a young boar from T. L. Steele of Grant's Pass, Ore.

The first annual meeting of the Yolo County Hog Raisers' Association was held at Woodland on Oct. 27. The meeting was addressed by Dr. Cady of the U. S. Dept. of Agri. and State Veterinarian Chas. Keane.

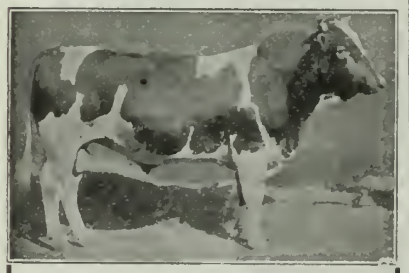
A. M. Standish is erecting on his ranch near Milpitas eight individual hog pens and runs. A few very choice Duroc sows were purchased last spring; from these an excellent herd is being built up.

Agents of the French and British governments are again in the San Joaquin Valley buying horses for army purposes and thus far two carloads have been shipped from Stockton to Kansas City.

W. H. Waugh of Riverside has joined the ranks of the swine breeders. He has four registered sows and a boar now. As soon as the quarantine is lifted, he will ship out several head of first-class stock from the East.

The Palo Alto Percheron Farm, of which Dr. Jenkins of Stanford is the principal stockholder, has leased 1000 acres of the Stanford ranch and are now very busy building new and replacing old buildings for housing their fine herd of Percherons.

Mrs. Anita Baldwin of Los Angeles county recently purchased a drove of 21 jennets from H. B. Thornberry of Stockton; a short time ago she also secured from Mr.



1st Prize 2-year-old Cal. State Fair 1914.

Segis Pontiac de Kol Burke

The bull that combines the blood of the greatest producing families in Holstein history. He is an outstanding individual, weighing 2200 at just three years of age. His dam RIVERSIDE SADIE DE KOL BURKE, is the heaviest milker that the breed has ever developed. She and six of her sisters have records above 30-lbs. butter in seven days.

A few sons of this sire are now available, some of which are soon ready for service. Several are from half sisters to Aralia De Kol, 30-lbs. butter in seven days at 12½ years, 28090 lbs. milk and 1142 lbs. butter in one year. Prices reasonable.

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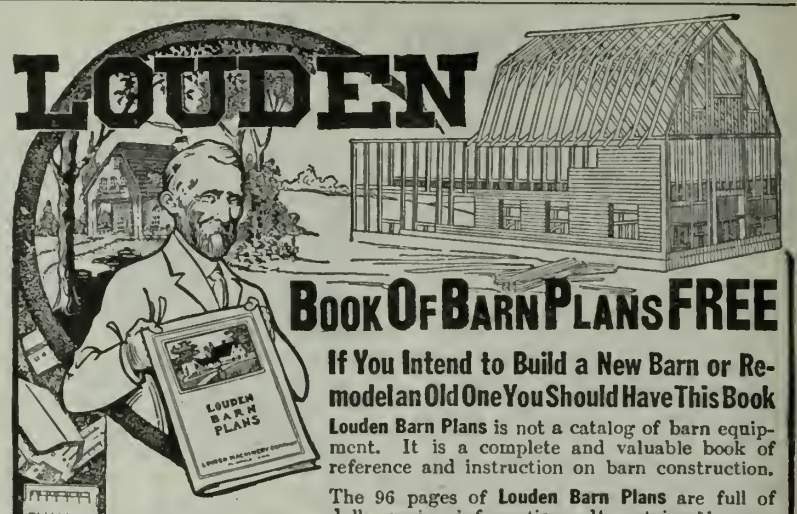
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Buy your lumber with your silo and get carload freight rate on both, saving 100% in freight. Send us your lumber bills for our delivered f. o. b. figures. Our prices are lowest because we sell direct.

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SEE LVITWIELER EXHIBIT
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Given highest awards. Absolutely non-pulsating. Cheaper water. Booklets free. Lvitwieler Pump. Eng. Co., 711 W Main, Los Angeles.

Thornberry two registered jacks for $7,500 each.

Another man has been building up a herd of high class Berkshire hogs: Ray C. Hannan has recently purchased a herd boar of Laurel Champion fame that will do his or any other farm a great credit. He also has a showy gilt which weighed 285 pounds at six months old which shows the good weight and quick growth of his herd. Mr. Hannan's farm is located at Corning.

Alex D. McCarty of the Riverina Farms, Modesto, writes: "The foundation stock for the Riverina Farms herd was purchased in the spring of 1913 from the best herds at Iowa and Minnesota. Our herd boar is Oak Grove Ladd 7th, No. 17469. One of our best sows is Oak Grove Pearl 4th No. 13790. We have just purchased from one of the leading Canadian breeders, Oak Lodge Vim 91st, No. 49141. We will exhibit these individuals at the Panama-Pacific Exposition next month together with a younger herd consisting of seven individuals, five gilts and two boars."

MISCELLANEOUS.

W. W. Russel, who has has been with Dr. Jenkins of Stanford as his ranch foreman, is now planning to go on his own ranch near Gilroy.

E. B. Balis has been appointed manager of the agricultural department of the Whittier State School to succeed W. H. Taylor who is to take charge of the stock farm of Mrs. Anita Baldwin.

A recent commerce report states that on account of stock diseases, there are practically no beef cattle kept in the Philippine Islands; and the whole supply for consumption is imported.

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INCREASE QUANTITY AND IMPROVE QUALITY of your milk by using a Guernsey Sire. We can furnish choice imported or home-bred bulls from big record cows at attractive prices. Imp. Itchen May King 25174, the best living May Rose bull, heads the herd. See him and his calves at San Francisco Exposition. Come and see our Guernseys, or send for price list. Edgemoor Farm, Santee, California. Walter H. Dupee, Proprietor.

FOR SALE, JERSEY—Noble Peer of Sunnyside, sired by Peer of Fair Acres. Dam University Marigold, with official years' record 5563 pounds milk, 356 pounds butter. Fine individual. H. L. Washburn, White Road, San Jose, Cal.

REG. HOLSTEINS—We offer choice grandsons of King Segis, also grandsons of the world's record cow, Creamelle Vale; blood that increases the value of your herd. Write or call and see our herd. F. H. Stenzel, San Lorenzo, Cal.

REGISTERED HOLSTEIN COWS and heifers bred to Colantha Sir Pontiac Aaggie for sale. Also bull calf by him from a 24-lb. cow. K. W. Abbott, Milpitas, Cal.

HOLSTEIN BULLS—Purebred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

FOR SALE—Registered Holstein-Friesian bull calves, sired by sons of King Pontiac Artis; $80 to $300. E. A. Claussen, 1139 Devisadero St., San Francisco.

FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

SUNNYBROOK RANCH, Willits, Cal.—Breeders Registered Holstein stock. Young bulls for sale sired by Ruby Gem Cavary Lad. Prices reasonable.

AYRSHIRES—For sale, fine young bulls from Imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

BREEDERS OF REGISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma, Cal.

TWO REGISTERED HOLSTEIN BULLS out of A. R. O. dams. Sired by King Mead. Ready for service. J. H. Harlan Co., Woodland, Cal.

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REG. JERSEYS—Herd established 1868. Young bulls from best cows. Ranch Dos Rios, R. 2, Modesto.

BREEDERS OF REGISTERED HOLSTEIN cattle and Berkshire pigs. Whittier State School, Whittier, Cal.

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WILLOWWOOD JERSEY FARM—Breeder of registered Jerseys. C. G. McFarland, R. 2, Tulare.

PALENDALE HERD of Reg. Holsteins. Young bulls for sale. J. A. Pelanda, Salida, Cal.

SUNNYSIDE HERD—Registered Holstein cattle. R. F. Guerin, R. 3, Box 58, Visalia, Cal.

REGISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

REGISTERED JERSEYS — Young bulls and bull calves. T. B. Purvine, Petaluma.

A. R. O. REGISTERED HOLSTEIN BULLS for sale. Millbrae Dairy, Millbrae, Cal.

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BREEDER of Registered Holstein Cattle. Ernest Otto McClure, R. 2, Modesto, Cal.

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FINE REGISTERED BERKSHIRE PIGS—Write or call Greenwood Ranch, R. D., Brentwood, Cal.

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REGISTERED POLAND-CHINA HOGS—J. W. Wakefield, Acampo.

REGISTERED DUROC-JERSEY SWINE—Las Pederas Ranch, El Cajon, Cal. M. S. Allen, Manager.

REGISTERED POLAND-CHINAS—Large and medium type. Prize-winners. W. A. Young, Lodi, Cal.

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POLAND-CHINAS—Big type. Big litters. All ages. Both sexes. C. A. Cooley, Durbam, Cal.

REGISTERED BERKSHIRES—Big-boned. Cholera immune. Riccomi Bros., Mountain View.

KNOB HILL STOCK FARM—Registered Poland-China Swine. A. M. Henry, Farmington.

DUROC-JERSEYS — Choice weanling pigs. Haden Smith, Box 403, Woodland

DUROC BOARS of Advancer and Chief. Breeding guaranteed. E. C. Curtis, Napa.

REGISTERED DUROCS—Weanling pigs for sale. T. B. Scribner, Orland, Cal.

POLAND-CHINAS—Prize-winners. Money-makers. W. Bernstein, Hanford, Cal.

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REGISTERED BERKSHIRES—Young stock for sale. F. W. White, Elk Grove, Cal.

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POLAND CHINA HOGS—Registered. B. J. Miller. Llewellyn Banch, Lathrop

REGISTERED POLAND-CHINAS and Duroc-Jerseys. H. F. Harrold, Orland.

REGISTERED POLAND-CHINA HOGS—J. A. Clark, R. 4, Lodi, Cal.

REGISTERED O. I. C. SWINE—C. D. CONWAY, Lakeport, Cal.

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BISHOP BROS., SAN RAMON, CAL.—Breeders and Importers. Shropshires.

BREEDER OF MERINO SHEEP—Rams for sale. J. Bidegaray, Fresno, Cal.

MISCELLANEOUS.

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Prices low.
JERSEY QUEEN FARM, San Jose, Cal.

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Conducted by Rena Shattuck.

THE GREAT ADVENTURE.

By Kathleen Green.

He longed for a Great Adventure,
For his life was dull and straight;
No dragons lingered about his path,
No Saracens thronged his gate.
Men past on the road to battle,
Or followed the sounding chase
But his was the struggle for common things
In the dust of the market place.

When the years were long behind him
And he feared to be growing old
He tried to barter adventurous deeds
For the weight of his gathered gold;
But the path was smooth and easy
Well beaten under his tread,
The battles he sought had been long since fought
And all the dragons were dead.

So he shouldered his spear in silence
And turned to his unloved ease,
His shining armor about the walls,
His sword unsoiled at his knees.
And there at last ere his strength was past
In the peace of his fireside
He met with the Great Adventure,
Struck once at the foe and died.

THE POPPY.

"Oh, you beautiful, lovely flower, so full of gold," said wee Robin, as she pressed her lips to a gorgeous poppy she had gathered from a wealth of others just as handsome. "I wish I knew more about you. Flowers are never sad, they even look glad when we pick them, and I think it must hurt them when we break them off of their stems."

Then a faint musical voice came from the poppy, saying:

"Take a sip of the dew in my golden cup and you will sleep and I will tell you all about myself."

Robin obeyed the voice, and presently she felt like she was soaring and everything around her was strangely beautiful. Bells tinkled in her ears, then it was the murmur of a silvery brook singing on its way between banks covered with lacy ferns. It changed into the songs of birds, then everything about her became a beautiful rose-color and she sank down on a downy silken couch and listened to far-away music. A dainty little maid attired in the satiny sheen of golden poppies and with butterflies' wings, flew lightly beside her, and this is the story she told:

"Once I was a little earth-child like you, and I suffered much. My parents took me to a hospital for a good doctor to cure me. On all sides were little white beds filled with boys and girls; some of them were only little babies, and some of them were going to get well and others were only waiting to go to a more beautiful place. Some of them cried all the time with pain, others couldn't sleep and there was nothing that could help them. Then a figure came in a mist of light and said:

" 'I have heard your prayer, little one, to help the suffering of others. If you will consent to go with me into a wonderful land I can create you into a beautiful flower and you will not only make the world rejoice by your beauty but you will hold a secret within your heart which will bring peace and happiness to the sick and cause them to forget their suffering.'

" 'How happy I should be,' I replied.

"Folding me in her arms she soared away and as she went flying over hill and valley, she gave me a reed pipe and bade me blow it, and as I did so, a shower of little black seed fell from it and burled themselves in the ground.

" 'Blow three times as hard as you can and point your reed toward the sun,' she commanded.

"I did as she directed and music as sweet as a lute came from it and a shower of gold dust fell over me and I was no longer an earth-child but a gorgeous poppy, and hidden away in my heart is a costly substance that is taken and made into a medicine and whosoever partakes of it, their pains and aches disappear and it brings rest, sleep and happy dreams."

FASHION TALKS.

The fall and winter styles show that fur is to be used on everything from "head to toe." Some of the shoes have a rim of fur round the top, the hats are fur-trimmed and suits and dresses have their finishing touches of fur collars and cuffs, and even some of the dress-skirts show a fringe of bear fur on the edge that favors somewhat of Pocahontas' time when she roamed the woods in fur-trimmed garments.

In the fur sets of muff and scarf the fox—black, silver, white and red—are most in favor; wolf, skunk, beaver and bear are used as well. Those who have the little old-fashioned round fur muffs that have been out of style for several seasons can resurrect them and shake out the moth balls, for fashion's edict has brought them into favor again. The animal style which is so much in vogue now in the scarfs is made of the whole skin of the animal with the head at one end, the tail at the other and the paws used as a fastening strap.

One of the scarfs I have seen recently was made of heavy black satin about two and a half yards long, about six inches wide and lined with lavender brocaded satin. Shadow lace was set in four inches from the ends showing the lavender through, and the ends were finished with black knotted silk fringe. A pretty and most becoming scarf.

The long evenings are drawing near and their advent always heralds the winter season parties. Exquisite party dresses are made in three tier scalloped effects, dancing length, in the delicate evening shades of crepe, or any other dainty fabric. High crushed girdles of same material and low neck and short sleeves lace-trimmed.

Apoplexy stands near the top as a cause of death among old people After passing middle age it is well for people of apoplectic tendency to watch digestion carefully and to avoid all intemperance in eating and drinking.

Lady Mackworth, a Lusitania survivor, is now managing England's coal trust of which her father is at the head. Her father, D. A. Thomas, is now in the United States on business for the British government, and she has undertaken the giant task in his absence, and yet some people claim that women have no business ability.

BULBS FOR THE FLOWER GARDEN.

[By Alfred W. Hincks.]

There has been considerable inquiry this year as to whether there would be a supply of bulbs to plant. The seedsmen have not known until recently whether or not Holland and France would be able to supply the bulbs which usually come from those countries. The bulbs from Holland and France have now arrived, and may be purchased from any of the seed stores.

In planting bulbs there are several considerations of very different sorts to be thought of: The first is time—you very likely want a succession of flowers in your garden beginning with those flowers which bloom in mid-winter and taking in those which last until summer. A second consideration is height; short varieties look best near walks and tall varieties in the background. A third is the color; a fourth is the fragrance; then there is, too, the location, the amount of space, the price and, over all, plant those sorts which you really like.

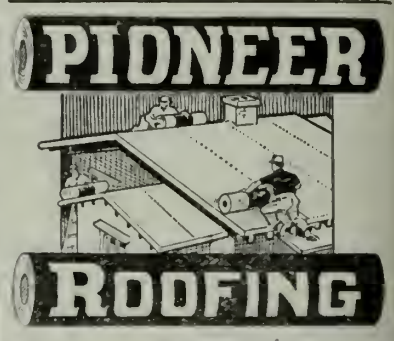
These bulbs bloom early and should be planted early: Narcissus, Paper White; Freesias; French Roman Hyacinths; these all may be had in bloom in January if planted in October. It so happens that all are deliciously fragrant.

Freesias have an exquisite perfume, and once planted live for years. They have grass-like foliage and make good borders, the flower stems will be about six inches long the first year, unless they are drawn up by keeping the sides dark, such as putting a board on each side of the row. The stems may be had eighteen inches long. Another bulb which should be planted early, not because it flowers in winter, but because the bulbs do not keep, is the handsome St. Joseph Lily—the hardiest of white lilies for the garden. This lily should be set out in September and will bloom in May—most lilies bloom two months later than this.

After the bulbs mentioned above, these sorts come in bloom: Blue and White Flag Iris if the roots have been planted two years, otherwise they flower in May. Crocus, Scillas, Snowdrops and Triteleya flower in March. Hyacinths, the first of April; Daffodils during all of April, also Lily-of-the-Valley. Late Long-Stem Tulips during May, also Spanish Iris, Anemones, Ixias, Ranunculus, Poeticus Narcissus, Sparaxis, English Iris during June, also early flowering Gladiolus, Incarvillea, Iris Gigantea, Germania and Susiana. July is the month for Lilies, Calochortus, late Gladiolus, Hyacinthus Candicans, Bleeding Heart and Tuberoses. Montbretias are also in flower and until the end of summer. Here certainly is a long list to choose from. A great many people think of only Hyacinths, Daffodils and Tulips when "bulbs" are spoken of, but some of the lesser-known sorts mentioned above are deserving of a very much wider planting.

One great thing about bulbs is that they have the flower bud and stem all ready made and stored inside of their thick covering, just waiting to be sent up into the most glorious flowers. The covering, too, is a storehouse of plant food ready to give a good start to the early growth. This is why bulbs are able to bloom early in the season and why there are few failures — the plant is strong to start with. If you plant bulbs you may look for good results almost without question; and if you can leave the bulbs in the ground just where they are and let the bed be dry after they have flowered, you may expect even better flowers the following year. If you cannot let the bed dry up, then leave the bulbs in four or six weeks after flowering, when the leaves will dry and the bulbs may be safely taken up and stored in dry earth and kept until fall, when they can be replanted. These sorts can be kept year after year in any ordinary flower bed; Daffodils, Jonquils, Agapanthus, Montbretia, Flag Iris or German Iris.

When planting do not put manure or fertilizer into the hole, but if the soil is heavy put a little sand around each bulb. A month before



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planting bulbs a good enriching of well-rotted manure, thoroughly dug into the bed, will be beneficial.

Where bulbs are set in beds and wanted to bloom all at one time, like Hyacinths, be sure to set the bulbs all at an even depth. If your flower bed is of heavy soil and wet, place the bulbs nearer to the surface than if the soil is light or sandy. The following table gives the correct depth to plant, and is measured to the top of the bulb:

Hyacinths—Plant 4 inches deep and 7-8 inches apart.

Daffodils—Plant 3 inches deep and 6-7 inches apart.

Jonquils—Plant 1 inch deep and 4 inches apart.

Tulips (long-stem) — Plant 2 inches deep and 6-7 inches apart.

Tulips (early bedding)—Plant 2 inches deep and 4 inches apart.

Lilies—Plant 5 inches deep and 18 inches apart.

Anemones—Plant 1½ inches deep and 4-5 inches apart.

Calochortus—Plant 2 inches deep and 3 inches apart.

Crocus—Plant 1 inch deep and 2 inches apart.

Freesias—Plant 1 inch deep and 3 inches apart.

Gladiolus (early flowering)—Plant 1½ inches deep and 5 inches apart.

Ixias—Plant 1 inch deep and 4 inches apart.

Ranunculus—Plant 1 inch deep and 5 inches apart, prongs pointing downward.

Old Dutch Breeder Tulips are in greatest demand just now. These have mahogany tones and brownish tints, which a few years ago were not largely planted; but now every one wants these "art colors" in his garden. The flowers are of magnificent size, and are among the most handsome Tulips. As companions to these are the Darwin Tulips and Long-stemmed Tulips. Darwins have handsome reds and claret tones, also pinks and carmines, and even a good lilac—Rev. Ewbank.

There are a number of fine Daffodils, which are much superior to any of the old sorts. King Alfred, shown in the Holland section of the Panama-Pacific display, is an especially fine Daffodil, with a very large trumpet elegantly frilled and a magnificent flower. Great improvements have been made in Daffodils and Crown Narcissus, and some of the newer sorts are in wonderful bright colors and in large size.

Early planting makes strong plants and fine, large flowers. October and November are the months to plant bulbs, and the earlier they are in the ground the better. Some summer-flowering bulbs do not ripen until late, but these are the exceptions and not the rule. Plant early.

Situations are preferable for planting bulbs where they get sun part of the day. Daffodils, Hyacinths and Tulips do well in partial shade. The finest English Iris I have ever seen were raised on the north side of a house and under the water spout from the roof. Japanese Iris needs a real wet place. Lily-of-the-Valley requires a shaded place and a mulching to keep the soil always moist. Remember to water regularly and freely all bulbs which are coming into bloom; then is the time they require a good supply. Manure water made by soaking rotted manure in water will help at that time. After flowering stop the water on bulbs and let the leaves die back, but do not cut them off while green, otherwise the bulb will not flower next year.

SCHOOL NOTES.

The Women's Civic Club of Joplin, Mo., besides relieving the suffering of the poor, have kept 150 children in school, seeing that they had the necessary clothing and food as well as the school books.

The girls at Bates College, Oregon, have long wished for a student government like that enjoyed by the boys, and this year by permission of the faculty under the supervision of Dean Buswell have drawn up a constitution. There will be no radical changes in the rules and regulations that may have been in vogue in the past, but the girls themselves will be more in charge of their own affairs. The plan is really the adoption of an Honor System as the girls are bound to report any infringement of their rules to a house president who is elected by the girls in the various dormitories. There is also an executive committee corresponding to the Student Council of the men. This committee is a medium in all affairs between the faculty and the girls of the college, and will be a deciding factor in matters that the girls may bring before it in regard to their social life and regular college work.

The textile school at Reichenberg, north Bohemia, years ago experimented in spinning the fiber of the common nettle and was successful. Owing to the shortage of cotton, the textile mills in Austria and Germany are now making use of the nettle fiber in place of American cotton.

The Chinese quarter of San Francisco is justly proud of the new Oriental school on Washington street which was dedicated by Mayor Rolph and members of the School Board on October 20th. The building is a modern $100,000 structure, with twelve classrooms, assembly hall, roof garden and open air classrooms. More than 400 pupils are enrolled.

Convicts at Folsom prison are studying to be teachers, according to announcement made by the university extension division of the University of California. Fourteen men have signed up for the normal course. About 500 prisoners are now enrolled in fifty-three different classes of the university extension course.

FROM VAUDEVILLE.

(Wilson Brothers.)

"I got arrested once—der chudge fined me ten dollars."

"Vot vos de charge?"

"Der vos no charge. He did it for nothing."

"No, no. I mean how did they come to arrest you?"

"In a patrol vaggon."

"Did you have der money to pay der fine vid?"

"No, I asked him for a little time."

"Und did der chudge gif it to you?"

"Oh, yes; he gif me thirty days."

THAT'S DIFFERENT.

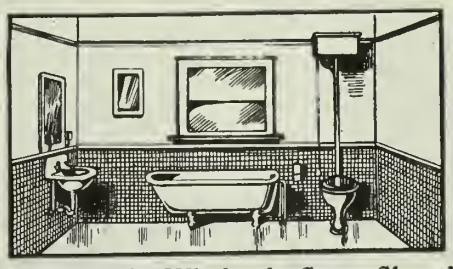
Nurse—Tommy, it is naughty to play soldiers on Sunday.

Tommy—Oh, that is all right. It's the Salvation Army.—Chicago News.

The delta of the Nile was the first mentioned in history. It took its name from its shape, bearing in this particular an exact resemblance to the Greek letter delta, or D.

In India the proportion of literate females among Muslims is as low as only 3 per 1,000; but in Burma it is as high as 77 per 1,000.

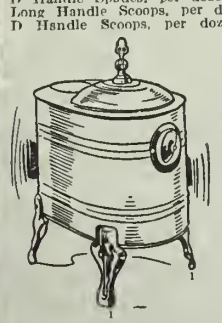
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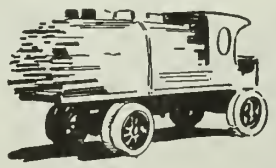
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The Markets.

(Unless otherwise noted, prices quoted are f. o. b. San Francisco.)

San Francisco, Oct. 27, 1915.

WHEAT.

The grain market in general is very uncertain at present, as the upward tendency in the East has been checked by new peace rumors, and the market is unusually sensitive to such influences. Locally values are unchanged, and trading at the moment is rather quiet, though so far there is no pressure to sell.

(Wholesale prices, S. F.)

Cal. Club, ctl.	$1.65 @1.67½
Northern Bluestem	1.70 @1.75
Northern Club	1.65 @1.70
Northern Red	1.60 @1.65

BARLEY.

Spot buying, which dropped off before the election, has not yet picked up much. Trading in futures has been fairly active, and the market is decidedly firm, but without any quotable advance.

Shipping, ctl.	$1.25 @1.30
Choice Feed, ctl.	1.22½ @1.27½

OATS.

No further advance is noted, and aside from a substantial movement of seed grades, business is limited to small jobbing operations.

Black, ctl.	$1.85 @2.00
Red Feed	1.30 @1.35
Red Seed	1.50 @1.75
White	1.40 @1.42½

CORN.

Business here is decidedly quiet, with only moderate consuming demands through the country and little disposition among large buyers to speculate, though the Eastern market is firm.

Eastern yellow, ctl.	$1.65 @1.70
Milo Maize	1.45 @1.55
Kaffir	1.55 @1.65

BEANS.

Further sharp advances are noted in several varieties this week, with a very strong demand in most lines. Shipments are large, and while there is still a great deal of stock on the Coast, the outlook is firm for most descriptions. White varieties, which are short in the East, are especially strong, and pinks, reds, bayos and cranberry beans all participate in the upward movement. Blackeyes and limas, of which the production is heavy, are only holding their own at present.

(On wharf, San Francisco.)

Bayos, per ctl.	$4.70 @4.80
Blackeyes	2.90 @3.00
Cranberry Beans	4.75 @4.90
Horse Beans	2.25 @3.00
Small Whites (south)	4.90 @5.00
Large Whites	4.90 @5.05
Pink	3.80 @3.90
Limas (south)	4.50 @4.60
Red Kidney	5.00 @5.25
Mexican Reds	4.25 @4.50

SEEDS.

The advancing season is bringing out a good deal more demand for all descriptions, but the heavy movement is still waiting for a good rain. Values show little change.

Alfalfa, per lb.	17 @18 c
Melilotus Alba	30 c
Melilotus, Indica	6 c
Bur Clover	11 c
Oregon Vetch	4¼ @ 4½ c
Soy Beans	6 c
Canada Peas	5¼ @ 6 c
Sudan Grass	40 c

HAY.

Hay is coming in at about the same rate as for several weeks past, most of it now being from the warehouses, as the fields are cleaned up. Some trouble is reported due to car shortage, which threatens to become more serious, and may cause some shortage in the local market. Values are very firm, though the old prices are still in force. Fancy wheat and red oat hay is very scarce and brings as high as $18 in light bales, most of the stock arriving grading as No. 1. There is an active demand in the country, as well as for export.

No. 1 Wheat	$12.00 @15.00
do No. 2	10.00 @11.50
Tame Oats	10.00 @15.00
Wild Oats	8.00 @10.50
Alfalfa	10.00 @14.00
Stock Hay	6.00 @ 8.00
Straw, per bale	.25 @ .40

FEEDSTUFFS.

The only change in this department is a slight drop in cracked corn. Most other lines are steady, with a fair demand.

(Wholesale prices per ton, carload lots, San Francisco.)

Beet Pulp, per ton	$20.00 @21.00
Alfalfa Meal. ton	17.00 @20.00
Alfalfa Molasses Meal per ton	20.00 @21.00
Bran, per ton	26.00 @27.00
Oilcake Meal	38.00 @39.00
Cocoanut Cake or Meal	23.00 @25.00
Cracked Corn	40.00 @41.00
Middlings	32.00 @33.00
Rolled Barley	26.50 @27.50
Rolled Oats	29.50 @31.00
Digester Tankage	45.00

VEGETABLES.

Prices in general have dropped off again this week. Offerings of most varieties are comparatively light, but the demand likewise has been limited for the last few days, and current arrivals do not clean up readily. Tomatoes are doing a little better, with fancy stock selling up to 60c.; and the best lots of eggplant bring an advance. String and lima beans are rather easy, and peppers have dropped sharply. Little green corn is coming in, but it is not very attractive, and with a very limited demand the price is low. Celery and artichokes are appearing more freely again, and prices have declined from last week's high level.

(Wholesale Prices, San Francisco.)

String Beans	2 @ 3½c
Lima Beans	2@ 3 c
Peppers, bell, box	35 @50 c
Tomatoes, lug	35 @50 c
Cucumbers, lug	35 @60 c
Summer Squash, lug	30 @40 c
Green corn sack	.75 @1.50
Okra, small boxes	40 @65 c
Eggplant, lug	40 @65 c
Celery, doz.	15 @25 c
Artichokes, doz.	20 @35 c

POTATOES AND ONIONS.

Prices in this line show no further change. Potatoes are coming in freely and find about the usual demand for this season, while onions continue firm, with a good outside demand which has already relieved the pressure of excessive supplies. Garlic is very scarce, and current supplies are coming from China.

Salinas Burbanks	$1.40 @1.55
Delta Burbanks	.90 @1.10
Sweet Potatoes, ctl.	1.10 @1.25
Onions, ctl.	.90 @1.00
Garlic, per lb. new	.08 @ .10

POULTRY.

The few changes noted are downward. The demand this week has been light, and while shipments of California chickens are not heavy, there is a good deal coming from the East. Young turkeys are more plentiful and lower, and extra hens have have been shaded a little. Young ducks show more firmness.

Turkeys, old, lb	18 @20 c
do, young	22 @23 c
Broilers, 15 lbs to doz and less, lb	30 c
do, over 15 lbs to doz	22 @24 c
Fryers	17 @18 c
Hens, extra, per lb	15 @16 c
Small Hens, per lb	13 @14 c
Smooth Young Roosters per lb	18 c
Squabs, per doz	2.00 @4.00
Geese, per pair	2.00 @2.50
Ducks, young, lb	14 @15 c
Old	12 @13 c
Belgian Hares	8 @ 9 c

BUTTER.

Prices show no change whatever from last week. Prime firsts advanced half a cent Saturday, but went back again with liberal offerings the first of the week, and there is nothing to indicate much change for the immediate future.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	27	27	27	27	—	27
Prime Firsts	24½	24½	25	24½	—	24½
Firsts	24	24	24	24	—	24

EGGS.

Extras quickly recovered from the slight decline noted last week, but there has been no further advance. Pullets, however, are higher, as the present price of extras has brought them into more demand; and as offerings are running rather light, further advances are anticipated.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	48½	48½	48	48	—	48½
Sel. Pullets	38½	38½	39	39½	—	39½

CHEESE.

All grades continue firm, though there is little change except for a slight advance in fancy flats. The inside figure on Monterey cheese is lower, but most business is done at the old range.

Y. A.'s, fancy	18 c
Fancy Calif. flats, per lb	17 c
Calif. Cheddar flats, per lb	16½c
Monterey Cheese	15 @17 c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	42	42	42	42	42	43
Cheese	14½	14½	14½	14½	14½	14½

DECIDUOUS FRUITS.

With the fag end of the season at hand, the fruit market is dragging a little. With good weather, many varieties are still in fair supply, but the general quality is nothing extra and the demand is slow. A good many cranberries are moving now, Eastern stock bringing up to $9.25 per barrel. Huckleberries are less plentiful, while strawberries are lower, with little demand. Figs are easy, with little attractive stock offered. Most of the Bartlett pears are taken from cold storage, while winter nellis are in good supply. Apples are firm, with a good shipping movement, and a great deal of northern stock is coming in. Pomegranates and persimmons are lower, with increasing supplies and only a light demand. Watermelons are about cleaned up, and offerings of cantaloupes are limited; and casabas, though plentiful, bring better prices. Except for muscats, grapes show less strength, though supplies are not very large.

(Sales in S. F. Market.)

Cranberries, Eastern, bbl.	$8.25 @925
Huckleberries, lb	5 @ 8 c
Strawberries, chest	4.00 @6.50
Figs,, bx., double layer	45 @75c
Pears, Bartlett, box	2.00 @2.50
Winter Nellis	.75 @1.00
Peaches, small box	40 @60 c
Apples, Newtown	.75 @1.00
Belleflowers	60 @90 c
Quinces, box	40 @70 c
Pomegranates, box	.75 @1.15
Persimmons, box	.70 @1.00
Casabas, doz	.75 @1.50
Cantaloupes, lug	35 @50 c
Watermelons, doz.	75 @ 2.00
Grapes:	
Malaga, lugs	.85 @1.10
Tokay, lug	75 @90 c
Muscats, lug	1.00 @1.25
Black, lug	.35 @ .65
Cornichon	.85 @1.00

DRIED FRUITS.

According to some of the local packers, the dried fruit market is in better shape than they expected, the demand in Eastern and foreign markets holding up remarkably well for this time of year. This, they say, is true of all lines. Apples are firm at the old figures, in sympathy with the Eastern market, though the movement in this line is not especially heavy. Apricots hold up well, being all out of growers' hands, and little is held by packers. Figs also are pretty well cleaned up. The greatest improvement is noted in prunes, which have stiffened up remarkably in the last week; though reports as to the reason for this differ. In some quarters it is said that certain interests are short for their October shipments, and that the price will drop after the end of the month; but with estimates of the pack considerably smaller than a few weeks ago, and a stronger demand in the East, there is at least a possibility of further advances. Peaches still receive very little attention, and prices are barely steady. The New York Journal of Commerce says:

"With all stocks of California Prunes absorbed as quickly as they reach New York, operators report that the market continues to hold a very active tendency. The available supplies received are said to fall far short of the demand. Future Coast prunes, are firmly held. The general quotation appears to be fairly well established at a 4½c bulk basis for stocks of straight 40s for either October or November shipment. Offerings are in evidence on the part of Coast packers for 40s to 70s at a 4c bulk basis f. o. b. common Coast shipping points.

Stocks of 1915 pack California Apricots, which have been very closely controlled and strongly held, are quoted at 8⅞c for equal quantities of choice, extra choice and fancy Southern stock f. o. b. common shipping points. The whole tone of the future apricot market appears to be very firm, with growers reported to be entirely sold out to the packers.

Heavy European inquiry continues to be received in the New York market for California Raisins both for spot stocks and for supplies for future shipment from the 1915 pack, according to well-posted operators. One sale is reported consisting of 100 cars of 1915 pack California raisins for Europe."

(Prices to growers.)

Apples	6½ @6¾c
Apricots, per lb	7½ @9½c
Figs, white	4 @4½c
Black	2 @3 c
Callmyrna	5½ @6 c
Prunes	4 @4½c
Peaches	2½ @3 c
Pears	4 @8 c

San Jose Prices to Growers, 1915 crop:

Apricots	8½ @9 c
Prunes, sub to dist.	4 @4¾c
Peaches	2½ @3 c
Pears	5 @6 c

CITRUS FRUITS.

The season for citrus fruits is closing with good prices, so much so that the average for the whole year will be much better than hoped for three months ago. Valencia oranges are in good demand and lemons are well cleaned up. Prices for lemons are from $2.60 to $3 per box f. o. b. California. On the New York citrus auction, Monday, Oct. 25th, valencias averaged from $6.55 down to $2.15 per box. Lemons averaged from $2.15 to $3.90 per box. At Chicago the same day, prices averaged from $5.25 to $5.75 per box, and lemons brought from $2.75 to $3.75 per box.

In San Francisco the new crop grapefruit has not yet appeared, and prices have again been advanced sharply. Arrivals of oranges are not especially large, but are more than the market will absorb readily at present, and prices are lower. Lemons are steady as last quoted.

(Wholesale prices, San Francisco.)

Oranges, Valencias, bx	$3.00 @3.75
Grapefruit, seedless, bx.	4.50 @5.00
Fancy	5.00 @6.00
Lemons, box	2.00 @3.50

NUTS.

Almonds are moving gradually, but there are still a good many of most varieties in the state, and prices show no particular strength. Packers are rejecting all they can of the crops contracted for early in the season, and their present offers are considerably below the Exchange figures; while independent growers are making efforts to dispose of many small lots. There has been a large movement of walnuts so far, and it is too early to tell how much French stock will be available.

(Exchange prices, f. o. b. common shipping point.)

Almonds (1915):	
Nonpareil	15 c
IXL	13½c
Ne Plus Ultra	13 c
Drakes	11 c
Languedocs	11 c
Walnuts (1915):	
Budded, per lb	17 c
No. 1	13.6c
No. 2	10.6c
Jumbo	16.6c

HONEY.

There has been little shipping business of late, and supplies are ample for local needs. Values, however, are well maintained, and the best grades of both comb and extracted are quite firm.

Water White, comb	11 @13 c
Amber	10 @11 c
Water White, extracted	6 @ 7 c
Light Amber	3 @ 4 c
Dark	2½ @ 3 c

LIVE STOCK.

Prices in all lines are pretty well maintained, with supplies for the local market holding up in good shape, but not excessive. The situation shows no feature of special interest at the moment.

San Francisco, Calif.
Oct. 14th, 1915.

During the thirty days from September 13th to October 13th, the California Almond Growers' Exchange advanced to members nearly Three Hundred Thousand Dollars — the major portion being money borrowed on the credit and resources of the Exchange.

CALIFORNIA ALMOND GROWERS' EXCHANGE,
311 California Street, San Francisco.

(Delivered S. F.)

Steers, No. 1	6¼ @ 6½c
No. 2	6 @ 6¼c
Cows and Heifers, No. 1	5½ @ 5¾c
No. 2	5¼ @ 5½c
Bulls and stags	4 @ 5 c
Calves: light	8 c
Medium	7½c
Heavy	6 @ 7 c
Hogs, grain-fed:	
200 to 300 lbs	6 c
100 to 200 lbs	6½c
Prime Wethers	6 @ 6¼c
Ewes	4¾ @ 5 c
Suckling lambs	7 @ 7¼c

DRESSED MEATS.

Steers	10 @ 10½c
Veals, large	12½ @ 13 c
Small	14 @ 15 c
Prime Wethers	11 @ 11½c
Ewes	10½ @ 11 c
Suckling Lambs	12 @ 13 c
Hogs	11 @ 12½c

WOOL.

Buyers have been taking more interest for the last week, and some good sizel lots of fall wool have changed hands in various parts of the state. Recent sales include some first class clips in both the Red Bluff and southern mountain districts. There is still a great deal of spring wool unsold.

Spring clip:	
Humboldt and Mendocino	18 @ 23 c
Sacramento Valley, lb	15 @ 16 c
Southern, year's staple	13 @ 14 c
Six months	10 @ 12½c
Fall clip:	
San Joaquin (defective)	7 @ 10 c
Northern "	9 @ 12½c
Southern Mountain, free	13 @ 14 c
Tehama Co., free	12 @ 13½c

HORSES.

Nothing new has developed in the local trade this week, as no large shipments have arrived and business is mostly of a small retail nature. Buyers, however, are taking some interest in medium to heavy stock, and better market is expected; while there is a very fair demand in most parts of the country for good serviceable work stock.

Approximate values at San Francisco, based on auction sales.)

Drafters, 1700 lbs and up	$200 @ 250
Drafters, 1550 to 1650	150 @ 200
Chunks, 1350 to 1500 lbs	150 @ 175
Wagon horses, 1050 to 1350 lbs	110 @ 150
Green Mountain range horses, 950 to 1200 lbs.	20 @ 75
Farm Workers	50 @ 100

SPECIAL DECIDUOUS MARKET REPORT.

By J. L. Nagle.

Sacramento, Cal., Oct. 25, 1915.

This week's shipments will show a decided falling off in the output of Tokays and Malagas. To date the total tonage of Tokays is in excess of last season by about three hundred cars, although it was reported early in the season that the crop of Tokays was considerably lighter than last season. This was true in some districts, but not in the Lodi section. The records show that last year but 5 per cent of the Tokay crop was marketed East, the balance going to the wineries.

The keg Emperor season is practically closed in so far as packing is concerned and most of the cars have been shipped East. Some shippers are also experimenting by shipping Emperors and Malagas in lugs for Eastern storage, to be sold at auction or to the trade at private sale for the mid-winter holidays.

It is estimated that there will be from five hundred to six hundred cars of crate Emperors which will be marketed during the next four or five weeks.

Considerable anxiety is being shown by the Spanish packers of Almeria Grapes on account of the increasing popularity by the Eastern buyers for the California Keg Emperor and inquiries have already been received in this country from Spain regarding the use of redwood sawdust as being superior to cork dust. If special care attends the packing of Emperors in kegs and the Eastern trade can be assured that nothing but the best is put up in this manner, it is only a question of a short time when the keg Emperors will supplant in a great measure the now popular Almeria.

The following prices have ruled for the week:

New York.—Malaga Grapes, averaged 98c.; Tokay, $1.07; Cornichon, $1.15; Muscat, $1.04; Winter Nellis Pears, $2.68: B. Clairgeau, $2.30.

Chicago.—Tokay Grapes, averaged 95c.; Malaga, $1.02; Cornichon, $1.09; Muscat, 99c.

Total shipments of deciduous fruits to date 14,555 cars as against 14,656 to the same date last year.

Highest Market Price
and Prompt Remittance
for dried fruits, nuts, honey, beeswax, beans, etc.
Send samples or ship direct to
J. E. LAWRENCE,
326 Clay Street, San Francisco

Publisher's Dep't.

This edition is devoted largely to stock, in order that we could give a full account of the meetings of cattle men, and judging of the live stock at the Exposition. In this connection Prof. Wickson gives us the second of the series of articles—this one covering live stock in California. In this article our editor gives some figures, some speculation, a little philosophy and much common sense, intermixed with a little dry humor, all of which makes a very interesting and instructive article. Read it carefully and then look for another one from his pen in about a month on a different subject.

Our edition this week, as it has been for several weeks past, is in excess of 23,000 copies. During the past week we added 233 new paid subscribers to our list. Next week we expect to announce a gain of more than 250 new subscribers. Field men take notice.

C. W. Hansen of San Mateo has entered eleven Buff Leghorns in the Panama-Pacific poultry show.

DIRECT LINE
San Francisco
TO
Sacramento
By Fast Electric Trains.
Through Scenic Redwood Canyon and Mt. Diablo Country
A cool and comfortable trip.
Observation Cars for Comfort.
Automatic Block Signals for Safety.
Oakland, Antioch & Eastern Railway
San Francisco Depot—
Key Route Ferry.

AN HONEST HOG BOOK.

In a personal letter to W. S. Guilford, the author, W. G. Stimmel, superintendent of the Vina ranch, says some very nice things about the "California Hog Book." We quote from Mr. Stimmel's letter:

"I think you are to be congratulated on your unusual honesty in giving credit to your sources of material. As to the book, I believe it will take place alongside Dean Wickson's 'California Vegetables' and 'California Fruits.' This Hog Book will be of great value to all of us as it is a clearing house of hog information gathered from men successful in the business. I find in the experience of others as related in your work a whole flock of ideas to apply to our own already successful work—ideas that will make our hog raising still more successful. The only complaint I have is that I now have to buy two more copies. W. G. Stimmel.
Vina.

State University investigation has given direct contradiction to the prevalent belief among ranchers that exclusive feeding of alfalfa to dairy milch cows tends to produce sterility. According to Professor C. H. Haring of the veterinary science division, long and careful investigation has found no evidence to suspect alfalfa of having anything to do with sterility. Professor Haring declares that from his observations cattle fed exclusively on alfalfa showed less sterility than those fed partly with this fodder or those receiving none of it.

Another boon to the alfalfa grower is a discovery by the university of a way to hoodwink cows into greedily eating weedy alfalfa. The University tried the experiment of putting the first cutting of an alfalfa field into a silo in April and feeding it during July and August to 107 range steers, together with a good cutting of second alfalfa hay, and also with rolled barley. This silage was eaten with relish.

On October 10 a fire destroyed a large prune shed on the Robert Durham property east of Durham containing 25 tons of prunes, practically the entire crop of this season.

Conditions at the present time indicate that the 1915 deciduous fruit season in the San Joaquin Valley will not be ended until the latter part of November, according to local shippers.

StandardBooks on California Agriculture

California Fruits and How to Grow Them. Wickson $3.00

California Vegetables in Garden and Field Wickson $2.00

One Thousand Questions in California Agriculture Answered. Wickson $1.50

California Flowers, Trees, Shrubs and Vines. Wickson $1.50

California Poultry Practice. Swaysgood $1.00

California Hog Book. Guilford $2.00

Productive Feeding of Farm Animals. Woll. $1.50

ALL PRICES, POSTPAID

Address
Pacific Rural Press
525 Market St., San Francisco

The Phillips Rice mill of Sacramento is busy receiving consignments of the 1915 rice crop.

Riccomi Bros. of Mt. View have as herd sire of their Holstein herd a son of a 25-pound cow.

Farmers of Tracy and vicinity voted Oct. 13 to form the West Side Irrigation District, to comprise about 11,500 acres.

A project for the establishment of a packing house in Turlock, and the marketing of the dried fruit produced in that district, in connection with dried fruit to be shipped in from other sections of the San Joaquin Valley, is being promoted.

Classified Advertisements.

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

WANTED.

WANTED—About seventy-five young men and women to enter the WESTERN NORMAL on August 30th, to prepare for teaching. Western Normal graduates secure and hold good positions. We assist graduates to secure good positions and promotion. We save you time and money. For information address, WESTERN NORMAL, J. R. HUMPHREYS, Principal, Stockton, Cal., Box 704.

AGRICULTURAL GRADUATE, University of California, desires position as manager of ranch. Several years' practical experience fruit, stock, farm machinery and handling men. Box XX, this office.

BEES.

INSTRUCTION BOOKS and prices, bees, supplies, etc., free. Spencer Apiaries, Ventura, Cal.

MISCELLANEOUS.

APPLES—Buy direct from the producer. Belleflowers now ready. Bulk pack, 4 and 4½ tiers. Graded to Fancy, 70c per box. F. O. B. Watsonville. Satisfaction guaranteed. Try a box or two. You will recommend them to your friends. Edward A. Hall, Watsonville, Cal.

LIVING EXPENSES REDUCED THROUGH CO-OPERATIVE BUYING—Write for catalogue and particulars. Pacific Co-operative League, D236 Commercial St. S. F.

DON'T YOU WANT a SEED and POULTRY SUPPLY business in good California City with none? Stock and fixtures of West Coast Seed House for sale at big bargain. Good Traveling Seedsman wishes could buy and move it to that city, best opening for Seed Store. Could swing there our Mail Order business. Would trade for any good clear real property. A good opportunity but demands QUICK ACTION. Would sell part to good business man and retain part interest, for above seedman. I have too much other business. T. S. Tompkins, 705 So. Griffin Ave., Los Angeles.

"SMITHS' PAYS THE FREIGHT."—To reduce the high cost of living, send for our Wholesale to Consumer Catalog. SMITHS' CASH STORE, 106 Clay St., San Francisco.

SECOND HAND WATER PIPE and screw casing. New threads and couplings dipped in hot asphaltum. All guaranteed. Send us your inquiry. SHECTER PIPE WORKS, 306-8 Howard St., San Francisco.

SOMETHING NEW—Buy your Tea and Coffee from the importers. Always fresh. Write for list. **THE WM. J. SCHROTH CO.,** 112B Market St., San Francisco.

TRACTOR PLOWING by time or contract. Special plow for hard ground J. W. Seitz, Mountain View, Cal.

GAS ENGINES, Motors, Generators, Pumps. Good as new. Bargains. 310 Sansome, San Francisco.

LAND FOR SALE.

FOR SALE—One of the finest and best improved dairy ranches in San Joaquin Valley—3 miles from Modesto, fully equipped; good bargain. Write for photos and description. Deal with owner direct; no agents. This is no junk, and will pay you to investigate. G. O. Hillier, 2106 Telegraph Ave., Oakland, Cal.

FARMS WANTED—We have direct buyers. Don't pay commissions. Write describing property, naming lowest price. We help buyers locate desirable property Free. American Investment Association, 93 Palace Bldg., Minneapolis, Minn.

SCHOOL LAND FOR SALE—600,000 acres to select from. Lists, particulars, SCHOOL LAND MAP, $2.50. Also county sectional maps showing GOVERNMENT LAND, $2.50 any county. Order TODAY. "Land Reporter." NOW, until 1917, $2.50. Subscribe at once. JOSEPH CLARK, Sacramento.

CALIFORNIA LAND—Money-making little farms, high class, low priced properties in all counties. Call or write the oldest land office in California; we will save you 25 to 50 per cent. C. M. WOOSTER CO., 303 Phelan Building, S. F. Catalogue free.

WANTED GOOD FARM, or unimproved land from owner. H. L. Downing, 145 Palace Bldg., Minneapolis, Minn.

FOR RENT—300 acres of alfalfa land. Apply to J. H. Glide, care West Sacramento Co., Sacramento, Cal.

TREES AND NURSERY STOCK.

WALNUT TREES—Eureka and El Monte varieties a specialty; also Franquette and Placentia. Write for prices and description of stock. Personal inspection invited. Eureka Walnut Nursery, Montebello, Cal.

RECLEANED ALFALFA SEED, excellent color, very high germination, first-class quality, 19c per pound, F. O. B. your railroad station. Send for sample. E. F. Sanguinetti, Yuma, Ariz.

STRAWBERRY PLANTS—Layer plans now ready. 55 varieties, including the FALL BEARING Asparagus Roots, etc. Catalog free. J. Keifford Hall, Route 5, Rhodesdale, Md.

10,000 APRICOT TREES on Apricot root. Selected bud and true to name. James J. Dale Nursery, State Highway, Mountain View, Cal.

ADDRESS MILWAUKEE NURSERIES for French Prune Trees on Myrobolan Plum roots. Milwaukee, Oregon.

ALMONDS WANTED — BITTER ALMONDS FOR PLANTING. ADDRESS BOX 94, LOOMIS, CAL.

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—A peach that keeps for days after reaching market.

—A peach of immense size, many weighing a pound each.

—A peach dense and solid, almost like a cling, yet perfect freestone.

—A peach that sells for $2.00 to $2.50 per bushel, when Elberta and ordinary varieties are bringing $1.00 to $1.50.

—A peach that paid Mr. Hale at the rate of $1420 per acre.

—A peach of highest quality, flavor, brilliant coloring.

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—A peach that means millions of dollars to California growers.



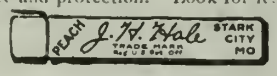
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"A peach that would go to European markets from California."—Parker Earle, Pasadena, Cal.

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Be Sure of Genuine J. H. Hale Peach Trees

Beware of fakers offering so-called "J. H. Hale" trees, or old "Hale's Early," of no commercial value. There is only **one genuine** J. H. Hale peach, grown by us under exclusive contract with Mr. Hale. Trade-marked tag with Mr. Hale's personal signature is your guarantee and protection. Look for it!



Read how Mr. Hale originated this great peach—how he tested it for 12 years—how he shipped it in a barrel like apples—how he got $380 MORE per car for J. H. Hales than for Elbertas. Find out all about this wonder peach, its size, beauty, yield, quality, how it sold at highest prices in a season of glutted markets—how it will make money for **you.** Hundreds of acres are being set out on the Pacific Coast. Don't wait. Write for the FREE 160 page Book today!



The Early Rose paid Mr. Hale $3.00 to $3.50 per crate—the highest price of any peaches on the market for a season of over two weeks.

The Early Rose—The Best of all Early Peaches

Its exceptional quality and flavor, deep, rich rosy color and marked peachy fragrance sold carload after carload on the New York markets in June at 50% to 60% higher than other varieties.

The Early Rose is to early peaches what the J. H. Hale is to commercial peaches—the best quality and highest profit-maker in its class. We are introducing the Early Rose to growers who are looking for an unusually early peach with exceptional quality, and one that is an extra good shipper. Our supply is limited. Write for catalog at once.

Delicious Apple—Another Money-Maker

Everybody knows Delicious—and the profits that it brings. It is the great national dessert apple—beautiful in appearance, dark red striped, firm, crisp, tender flesh, and with a surpassing flavor, mild, luscious and tempting. A plateful of Delicious will perfume a whole room. Delicious is a splendid keeper and shipper—stands lots of handling—brings more per box than most apples do per barrel. Succeeds in lower elevations in California where other apples fail. You can now get genuine Delicious trees direct from William P. Stark at prices you usually pay for ordinary varieties. Write for low growers' prices.



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We have customers in every Western state. They buy from us year after year, because they get better developed, thriftier, more vigorous trees, with heavy, dense, wide-spreading root-systems such as they cannot get anywhere else. These trees establish themselves quickly and make an amazingly rapid, healthy growth. The William P. Stark "3,000 Mile Package" ensures safe delivery to any shipping station in the world. And best of all, by buying direct from the nursery you cut out all agents' and salesmen's salaries and commissions. You save from 30% to 50% on your order.

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☐ J. H. Hale Peach ☐ Delicious Apple
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☐ Peaches ☐ Cherries ☐ Grapes
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_____ Approximate Number of Trees Desired.

Name _____

Address _____

Vol. XC—No. 19. Forty-Fifth Year

THE PACIFIC RURAL PRESS

SAN FRANCISCO NOVEMBER 6, 1915. LOS ANGELES

California State Library 7-1-1

Citrus Frost Insurance.

All citrus orchards, even when located in "frostless" sections, need frost protection. Local topography permitting air-drainage reduces the cost of smudging, but is not dependable.

[Written for Pacific Rural Press.]

FROSTLESS citrus orchards have been frosted at the same time that exposed orchards have escaped. Until we are able to control the winds and the somersaults of windless air, none of our citrus orchards will ever be free from frost danger. Strictly speaking, frost itself is a safeguard. Low temperature is the destructive force, increased by rapid thawing afterward.

Over in Utah, as a rule, they have given up frost fighting because of the dryness of air and the frequency of wind. They grow fruit in places where it survives the frosts. In some cases, our citrus orchards might well be abandoned because excessive frost fighting increases cost of production until profits on present markets are all gone. At any rate this is to be considered in selecting locations.

Since still air cools mostly by contact with cooled objects, lowest temperatures are found next to the ground. Since cold air is heavier than the rest, it slides down hillsides and through draws in currents which collect at low points in lakes of ever-increasing depth. Here under ordinary conditions, is the greatest danger point. Cost of production will be lessened by selecting locations from which such currents can drain away.

Sometimes, as in 1912-13, the currents assume titanic proportions so that they envelope mountains and flow over them, or may be drawn across great sections of country by the rising of warm air at some place far away. Local topography does not help much then, and the cold must be kept away from orchards or the crops and often the trees will be lost.





ORANGE ORCHARDS NEAR PENRYN AND POMONA.
In fighting frost, the pots are set between the rows; in summer they are either stacked or set under the trees.

Does Frost Fighting Pay.—Whether it will pay to insure against such loss or to grin and bear it, or to replant in less dangerous locations, will depend on the value of the crop and trees insured, the cost of the insurance, and the probable frequency of its need.

Little need be said about the frequency of danger except that no insurance company is known that will issue a policy against frost. The Citrus Protective League finds the average annual cost of frost fighting $20 to $40 per acre. It was much higher during the big freeze; but it was still higher for those who fired awhile and had to give up for lack of adequate fuel and equipment. One company had $109 per acre invested in equipment and oil. They thought so well of the proposition that they now have $182 per acre invested in spite of the $33 annual interest-and-depreciation charge which goes on whether the frost comes or not. The actual expense of frost fighting, including labor, fuel, interest, and depreciation, was about $110 per acre in 1912-13. It is worth while to spend $110, to save the trees themselves, in addition to the profits on the crop, which in this case paid fair dividends to the stockholders after paying a cost of production f. o. b. cars of $500 per acre. The labor cost practically as much as all other charges, while the fuel used cost half of the remainder.

Organization Reduces Cost.—Where large areas of citrus orchards are close together both the labor and fuel cost can be greatly reduced, with a most important increase in efficiency. The freeze of 1912 had stimulated the organization of districts in which thermometers and psychrometers were located at significant points. Men on motorcycles patrolled definite circuits and their reports to the central officer of the district were charted on a large map. As each report came in, the rapidity of temperature drop was noted and when time came to fire in any district, telephone central gave each grower a prearranged signal. Where the growers of a district are unanimously in on such a proposition, there is manifestly more protection afforded to each, at far less cost for labor and fuel, but with more dependable notice of the necessary time of firing and extinguishing fires.

These frost fighting districts have been greatly increased in number and individual strength since 1913, and they afford a most efficient means of distributing the general forecasts of the U. S. Weather Bureau. To make these forecasts requires a knowledge of temperature and atmospheric conditions for a radius of thousands of miles. Reports of these conditions are sent to the Weather Bureau office in San Francisco where they are interpreted and wired to the citrus districts to be distributed locally by phone, mail or otherwise.

When to Fire.—The time of firing depends on rapidity of temperature drop and on humidity of the air. With other conditions equal, fires should be started at 34 degrees or above when the drop is rapid, while 31 degrees is otherwise considered safe. But humidity

(Continued on Page 453.)

PACIFIC RURAL PRESS

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SAN FRANCISCO

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J. C. LOOMIS - - Assistant Editor

California Weather Record.

The following rainfall and temperature record is furnished the PACIFIC RURAL PRESS by the United States Department of Agricultural Weather Bureau, at San Francisco, for the week ending at p. m., November 2, 1915.

STATIONS	Rainfall Data: Past Week	Rainfall Data: Seasonal To Date	Rainfall Data: Normal To Date	Temperature Data: Max'm	Temperature Data: Min'm
Eureka	.02	1.15	4.17	62	44
Red Bluff	0	.14	2.50	86	50
Sacramento	0	0	1.54	82	46
San Francisco	0	.02	1.67	83	52
San Jose	0	.04	1.34	82	40
Fresno	0	0	1.01	88	48
Independence	0	.09	.97	76	38*
San Luis Obispo	0	.01	1.88	94	42
Los Angeles	0	0	.85	92	50
San Diego	0	0	.54	78	52

*To October 31st.

THE WEEK

Two notable and significant things have transpired since we wrote in this place a week ago: prunes have reached a basic price of 5c per pound, and figures have become available to show that the outward movement of California cured fruits has amounted to more or less of a clean-up of holdover supplies and has bitten sharply into the crops of the current year. The figures of the movement of dried peaches, given on another page of this issue, should be carefully studied: they are themselves more eloquent than anything which can be written about them, and our claim is that they could have been foreseen by any unprejudiced person with half a prophetic eye. We had about that much prophecy in us when we wrote in these columns, on May 29th last, as follows:

"If one listened too long to the croaking of the buyers, he would surely be apt to think that California might have to eat up all the food products she makes this year. It is the most utter nonsense. Half the world off its job and hungry! There are not enough embargoes nor submarines nor prize courts or other obstructions in the world to keep hungry men or nations from getting food. Hunger draws food just as a magnet draws steel—unceasingly, relentlessly, and with a surprising degree of efficiency; and, conversely, food draws gold in the same way. When you are told that California products cannot be moved because of the war, these facts may be worth remembering. If California grows plenty of things good to eat, they will get out all right."

If one wishes to see just how this prophecy has worked out, and how quickly, too, let him read the figures on another page. It surely works better than sun-spot and quadrature rain prophecies, and it works because it has more common sense in it. The psychology of bear movements in food prices is that they endeavor to throw people off their common sense, and they generally try to do this by shouting a lot of things which are not facts. The producer is very likely to be knocked leary by this shouting if he feels his loneliness and dependence, and that is the bear's opportunity. If the producer feels the shoulder-touch and hears the voices of his associates in the same line, he learns to laugh at many things which he is apt to weep over when alone. If peach-growers had come together in 1914 as they were urged to do, and as they are now doing in 1915, the funk of last spring would have been made impossible, and how much money and how many heart-aches would have been saved thereby. The peach-depression should never have occurred and never would have occurred if peach growers had been ready to meet it by associated courage, capital and credit.

The Lesson from the Prune-Growers.

What a strong side-light is thrown upon the funk in peaches by the achievement of the prune-growers committee! The same game was projected on the prune-growers as on the peach-growers. It was a drive of speculators all around, and legitimate enough from a commercial point of view. We are not condemning it at all. If we had had money and smartness enough we might have been in it ourselves with a perfectly quiet commercial conscience. A buyer has of course no right to lie, but he has a right to express an opinion that the world's trade would continue demoralized, that the mighty deep would be full of monsters fiercer than the ancients could dream of, and that people on shore would be content to gnaw a bone and not try to get delicious dried peaches and prunes. And if the buyer pours these views into the ears of the seller, with groanings which cannot be uttered, it is surely commercial ethics with at least the sanction of antiquity in the old proverb and common law principle "let the buyer beware"; and, as the logicians might say, "the converse is also true: let the seller beware"—which is the aspect producers have to look out for. What a fine lot of money prune-buyers would have made if they had been able to make their bear-game work and filled themselves with prunes at the prices they desired to pay! They got enough probably and will make all the money they desire for their astuteness. We are not begrudging them that, although it is painful to think of those of little faith who needed more money than they got this year. The ones to be blamed are the growers who allow themselves to be stampeded and roped singly by those who explode the munitions of the buyers' craft for the very purpose of blinding and frightening them. How easily such a bluff can be called and exposed is certainly demonstrated by the prune growers' defensive campaign of this summer. They had but informal organization; only a committee of safety, as it were. They were able to uncover certain real facts of much importance and they put a bold front against unwarranted aggression. They controlled nothing; they simply focused the rays of common sense which the buyers were trying to scatter. They did not change a condition; they simply disclosed it. They did not advance values; they simply made people see that values must advance under the conditions which they disclosed. They have saved prune-growers a million dollars—perhaps more.

Now, as all can see how easily this beneficent deed was done, does one have to argue for organization? Do not the facts declare it, without argument? And as this committee has thus demonstrated possession of that most admirable modern quality of efficiency, is it not clearly their duty to do more? How could you assemble a better bunch of men to lead prune-growers into formal association, of such form as seems wise after full deliberation, than this committee which has a right to inscribe on its banner: "We have saved you a million dollars"? That is what we are thinking of at this moment and we may think more of it at some other time.

The Sea Will be Full of Ships.

When California was a great grain State and the surplus had to be wind-jammed around the Horn, there was an immense business done in "charters to arrive," which meant that every old tub which could carry wheat might come into the harbor with her outward service already contracted for, so that a shipper of wheat could not charter a ship when he was ready to ship: all he could do was to buy a charter from those who gambled in them. And not only that: the easiest way to corner grain was to corner charters, and the grain had to come to you. It was a fierce aggression and imposition upon the grain-growers; it began fifty years ago and more, and it filled the sky with wailings and profanity. We may think more of that outrage on producers at another time. Just now we mention it to make a contrast. Last spring fruit buyers said there would be no ships for this year's cured fruits. Think of that when you read the figures of exports of dried peaches on another page. In spite of hardships to American ship owners, which should be cleared away, there never has been a time when so many ships promised to plough Californian waters. The way they are coming may be humiliating to Americans, but that is another story. They will carry the goods to distant markets and that is the assurance we chiefly need at the moment. Our East and the great Orient seem to be flying abreast toward Pacific ports. From New York and Washington come announcements of the Pacific and Eastern Steamship Company, capitalized for $2,000,000. Eight ships will soon be in operation between New York, the Panama Canal, San Francisco, other Pacific Coast ports and the Orient. Officials state that eventually the capital would be close to $100,000,000 and a determined campaign would be waged for the shipping business between Pacific Coast ports and the Far East. News is also given of the increase of the "Admiral" fleet from this port northward to Alaska, by addition of two new steamers recently purchased in the East. It certainly does look as though our days of small things, cornered charters and lack of ships, are passing away, and that our horizon, though never fully white with sail, might be black with oil and coal-burning steamers.

A Fragrant Trainload.

Although most enterprises projected for California along the line of perfume farming on the posy basis have failed because of the high price of labor for petal-plucking, there is surely one line whose efficiency for perfume need not be questioned, for it has achieved the shipment of a special trainload of onions from Sherman Island to an Eastern point. This fact interests us not so much for its fragrance as for its suggestion of one fact of onion history of California. This trainload was made up of onions from Sherman Island, in the lower tule dis-

ct, which came early under reclamation, although it did not, perhaps, stay with it very adily and has had to survive some mishaps. connection with onions on Sherman Island, the doubt was at the beginning, and it was ickly dispelled, and most conclusively, too. e remember the claim in the seventies that od onions could not be successfully grown on e reclaimed islands—that they would not be und, firm, and all that. At that time onions me chiefly from the lands adjacent to the uthern extension of San Francisco bay, and e people rather rejoiced in the appellation, Onion City," which one of their villages ined by the large shipping of the product to n Francisco. It was probably some patriotic n of Onion City who spread the report rough the San Francisco papers that such od onions as theirs could not be grown "on e tules," and certainly the public mind was mpathetic to the claim. The claim, however, t on the nerves and the onions of an old iends of ours named Perkins, a pioneer of mmaton, Sherman Island, and he sat-to to dis- l the illusion. He used to float into the me- opolis in those old days by river steamer, ad in a black sombrero and a long linen ister, and always made the Rural Press office friendly call. One day he came in along wards night, looking very tired and smoth- ed with smell. We asked him why. "Well," id he, "I have been into every wholesale oduce house in this city fighting that infernal e about tule onions. They have said tule ions were no good and I resolved to show em." Then he pulled out of each pocket of s duster a gleaming "silver-skin" as large a pie-plate and hard as concrete, and umped them down on our desk. "There, oung man," he said, "take them home and oil them—they are my exhibits; they have one their work." And they surely had. Perins had held up every commission man rough the old produce district of forty years go, and made him admit that Sherman Island uld grow a sound, firm, fine-grained onion! Ve cannot think of that special trainload of le product, speeding across lonely plains and rough populous towns on its eastward way, istilling everywhere the fragrance of civiliza- on and good cheer, without being more than ver convinced that Perkins of Sherman Island ade good!

New Foe for Rice.

The fragrance of onions certainly suggests oast ducks, and roasting is what they deserve or their work on rice. They are getting it ow because the shooting season is open, but t opens too late for the rice growers. It is a nonth or more since ducks began their ravages n ripening rice in the Sacramento Valley. The irst ducks shot showed liberal feeding of rice. One mallard killed at Colusa had two ounces nd a half of rice in its craw. A grower northvest of Colusa has lost more than 100 acres of ice from the ravages of ducks and blackbirds. The growers will appeal to the Fish and Game Commission for relief on the ground that ducks re more numerous in the valley than ever efore. It probably would not avail much, ut they ought to appeal upon the ground hat no one's interest or sport should be gratified at the expense of the man whose ivelihood is in his crop. That is the fundamental idea, but it seems hard for it to get ny headway in the public mind.

Queries and Replies.

Querists must give name and address.

Pruning Running Roses.

To the Editor: We have been reading your book on "California Garden-Flowers," particularly on pruning roses, but do not find any instructions as to what to do with climbing roses on fences. We are going on to an old ranch where roses on 300 yards of fence have been untouched for two or three years, and immensely long sprays grow out in every direction, half-way across the road. Can we bring it down to some restriction without losing this winter and spring bloom?—R. B. P., Los Angeles.

The general handling of vines trained against house walls or high fences at the opening of Chapter XXV applies to climbing roses as to other vines. In training on a highway or division-line fence there are two ways, according to the effect you desire to produce. If there is a good fence and you desire to clothe it with good large leaves and roses, the same principles should be observed as in covering a house-wall, viz., lay down the canes flat, fasten them tightly in place with large staples or double-pointed tacks, which give plenty of room for expansion, saving new wood and cutting out old until you have covered the space with canes about six inches apart. After the first blooming remove suckers and keep the growth down to the canes you have laid in place, getting leaves and bloom on short laterals from these canes. If you have no fence, or if you desire to produce a fountain effect along the line, get into the center-line pretty well, cut out old wood, and save new canes, which arch outwards to make the outline you choose as best, saving what you need for that outline, and cutting out everything else whether it be old or new. For this effect do not shorten the arching canes—if they go too far, take them out near to the starting point, and new streamers will appear later, which will serve your purpose better. All the canes you leave now will bloom this winter.

We take it you do not desire to make a rose hedge. If you do, follow an entirely different policy. Stretch a line along one side to mark one of the upper corners of the hedge-form and cut off all growth on side and top to that line, thinning out shoots where they grow thickly and bending and tying to stakes, or to other canes, growth which can be used to fill gaps. Then stretch the line on the other side and fix that up in the same way. The hedge will also bloom on new laterals, which start after pruning.

The Chance in Quinces.

To the Editor: I have land that seems especially adapted to growing quinces. Trees began bearing at three years and in the fourth year were heavily laden with fine large quinces. I would plant largely to these trees if I were sure of a market. Can you inform me about a market for quinces? I know of but one large quince orchard. I believe this ships to the East.—O. L. T., Santa Rosa.

Expansion of the quince product must be undertaken with much care, for the demand is limited and largely local. Thirty years ago there was an idea that many more could be grown for Eastern sale, but experience showed that only small shipments could be made to the East. Although the California quince is larger and handsomer than the Eastern, they do not care to pay more for a fruit which loses its form in preparation for use. Such quinces as are now grown pay about as well as apples, but if we should largely increase the product no use could be found for it. You might do very well with your planting providing too many other planters did not follow the same "hunch."

Early Planting of Beets.

To the Editor: Would you advise planting stock beets, in the San Joaquin Valley near Bakersfield, at this time of the year? In other words, is it too cold here to plant them at this time?—H. P. S., Wasco.

If the soil is right for germination you can start your beets now, and they will not be injured later unless you are in a place of very hard freezing. Beets will go through quite hard frosts, but the growth will be slow and not give you much stock feed until towards spring. For early winter feeding, beets should be sown in June or July with irrigation, and will get plenty of fall growth to make large feeding from December to February.

Sterile Apricots.

To the Editor: What can be done for a couple of apricot trees, six years old, which have never borne any fruit. They are about sixty feet apart. Should they be pruned this fall and how severely? Will other trees planted near them help any?—E. R. F., Sanger.

You do not say what variety of apricot. Probably not less than 25 varieties of apricots have been discarded during the last forty years for natural sterility. You may have one of them. Do not winter-prune them at all. It would have been a good experiment to have summer-pruned them severely last July. No need of cross-pollination has been demonstrated for the apricot. You can see what more age may do for them, or you can graft them over—taking scions from some tree which bears regularly.

Pruning Prunes.

To the Editor: How would you prune a French prune tree after second summer in orchard? Would you advise topping or cutting back main branches, and how many laterals would you allow to grow on main branches, and should the laterals be pruned?—M. A. H., Walsh Station.

Although there is some difference of opinion as to how a prune tree should be pruned after the third summer growth (as our columns last year clearly showed) there is little difference among those who prune at all, as to the desirability of rather short cutting for the third summer's growth. We should prune back to a length of one to two feet from the starting point of the second summer's growth, according to strength, situation and direction of the branch. There can be no rule of inches. It is a matter of judgment. As to number of laterals, two cut-back shoots of last summer's growth from each branch of the first summer's growth would be usually enough to fill the tree sufficiently by the end of next summer's growth.

W. B. Thomas, a former Californian, but for the past sixteen years a pineapple grower and shipper of Hawaii, while in our office recently, reported the pineapple industry as growing faster than the market. He, with other growers of the islands, is planning a co-operative marketing and educational movement to better their selling conditions.

Walnut Growers' Economical Marketing.

To the Editor: Answering your inquiry, we do not handle walnuts in small quantities. This Association is simply the selling end of twenty-two local walnut growers' associations operating throughout California and we confine our sales to the wholesale jobbing trade only. If we attempt to sell small lots in a retail way, we cannot expect the support of the wholesalers, whose distribution system is entirely essential to our success. Furthermore, our business comes on with such a rush at this season of the year that we are not prepared in any way to handle small orders. Our shipments all are made in carload quantities and at this season of the year the volume of business we do amounts to about a hundred to a hundred and fifty thousand dollars a day. Any first-class retail store any place in the United States can supply any consumer with our Diamond Brand Walnuts in packages, we having already sold some 4,000,000 packages of this stock this season. The large retail stores we know of handling this package are McLain; Goldberg, Bowen & Co., San Francisco, and practically every prominent retail store in Los Angeles. We have a plant here in Los Angeles for handling the cull walnuts for our members where we employ some 200 people and crack up about 25 tons of walnuts daily. We grade the meats into four grades—light halves, light pieces, amber pieces and halves mixed and dark pieces and halves mixed. These also are sold to the wholesale trade.

I might add in conclusion that through our system of marketing everything at a uniform price, competition has forced our entire line to be handled very close by both the jobber and the retailer. Therefore, the consumer is assured of buying Diamond Brand walnuts through their retail store really cheaper than we could afford to fill the order if it was sent direct to this office. Nobody can buy first-class walnuts unless they are willing to pay a reasonable price for them. We have a great many inquiries from people wanting to know where they can buy good walnuts cheap. We simply tell them that this cannot be done. They can buy good walnuts or they can buy walnuts cheap, but they cannot buy good walnuts cheap. They have either got to sacrifice quality or else pay the price.

C. Thorpe, Manager.
California Walnut Growers' Ass'n.

California Olive Growers Organized.

[Written for Pacific Rural Press.]

Olive growers from Tehama to San Diego counties and eastward and westward were loaded for business when they met in San Francisco Oct. 29, to organize a Statewide Olive Growers' Ass'n. This was the culmination of several months' work interviewing growers and holding meetings in all olive sections of the State. It first took definite form when a temporary organization was formed at the Exposition on Ripe Olive Day, Mar. 31, with J. J. Avis of San Francisco as president and R. L. Underhill of Berkeley as secretary.

At the suggestion of the temporary organization, a proposed platform of action, articles of incorporation, and by-laws were drawn up and presented by J. P. Dargitz of Acampo, veteran organizer of the Cal. Cured Fruit Exchange and the Cal. Almond Growers' Exchange. Mr. Dargitz said that the plan proposed for olive growers provided for contingencies which caused more or less trouble in the other associations, because unforeseen when they organized. It provides for a non-profit co-operative association to be incorporated under the laws of California with no capital stock unless the membership fee should be counted as such. The voting would be one vote per acre, for protection of large operators, but it was stated that the other Exchanges which have the same provision have found that they could always run the business on the one man one vote basis.

The purposes as stated in the platform are broad enough to enable the new association to do anything connected with olives, paying the expenses from the returns and always keeping the membership fee of $10 per acre intact as working capital. As 3000 acres were signed up with the temporary organization and as there are about 1,500 acres bearing in Cal., this capital will be a plenty in view of the $800,000 worth of business done by the Cured Fruit Exchange during its first 15 months without a dollar of capital, and in view of the $19,000,000 business done last year by the Cal. Fruit Growers' Exchange on a capital of $1,700. The Almond Growers' Exchange paid $300,000 to growers of this year's crop before it had $25,000 returns on almonds sold and it has no capital.

The principal immediate purpose as brought out in the meeting, is to standardize the curing of olives, always giving each locality its own brand in connection with the State Association's advertised brand. At the same time, marketing arrangements will be pushed with all the vigor possible. The fruit is to be pooled, perhaps by localities, on the basis of the relative price at which each grade sells. This eliminates the idea that "my fruit is best." Details of management are to be worked out after incorporation, which followed immediately after the meeting.

Some 50 delegates from local olive growers' associations, and representative olive growers were present and approved the plan unanimously after spirited discussion of the stock company idea embodied in the Raisin Co. The State was divided into tentative districts and a director from each district was elected to serve one month or until his successor is elected by a meeting of olive growers in his district. Following are the divisions, and directors who were elected primarily to sign articles of incorporation and get things moving. Northern District, all north of Marysville represented by E. P. Hilborn of Oroville; North Central, all between Marysville and Turlock, including the Bay district, by J. J. Avis of San Francisco; Central, all between Turlock and Tehachapi, by R. C. Merryman of Exeter; South Central, including Santa Barbara, Ventura and Los Angeles counties, by A. B. Miller of Los Angeles; and Southern, by E. J. Harper of Los Angeles, whose orchard is in San Diego county.

A number of landowners northwest of Colusa are formulating plans for the irrigation of 10,000 acres which will be planted to rice next season.

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Plow Vs. Leaf Hopper.

[Written for Pacific Rural Press.]

Vine leaf hoppers injure grapes in Fresno county if neglected. The defoliation which follows severe infestation exposes the grapes more or less to sunburn so that they must be picked as soon as possible after they become sweet enough to pass the recently imposed test.

F. H. Wilson had 50 acres of Emperors whose leaves were nearly ready to fall when he had them "hoppered" with a machine recently described in Pacific Rural Press. Six times through the vineyard with the machine persuaded the leaves to hang on and protect the grapes so that Mr. Wilson is said to have packed and sold at $2800 per car. It was cheap hopper work, considering what was saved; but, according to W. M. McKersie in charge of this ranch, they may be handled cheaper than that by taking them in time.

He plows a double furrow between the vine rows about three feet from the row just before Christmas. All the loose leaves and weeds are raked into the furrow and dirt is plowed back onto them. The hoppers have been hiding under them The insects are still pretty active and not many are plowed under. But the exposure during the cold winter after their protection is removed gets most of them so that Mr. McKersie doesn't worry about them. But if the leaves and weeds were left all winter, the chances are that leaf hoppers would be so numerous in this vineyard and others in that section that they would set back the vine growth and prevent or injure the crop by cleaning off the leaves very quickly.

AVOCADO GROWERS ENCOURAGED.

[Written for Pacific Rural Press.]

The avocado is coming to the front through the efforts of the California Avocado Growers' Association which held a meeting in Los Angeles Oct. 23. This organization is built on the co-operative plan to forestall such troubles as growers of other fruits have had. The exhibit of avocado fruits and trees and by-products attracted as much favorable attention as did the lunch of avocado sandwiches, salads, etc. Points brought out in the addresses are summarized below: I. J. Condit: hardiness of trees against frost depends largely on degree of dormancy. This depends much on the time of last irrigation of season. Prof. M. E. Jaffa; the avocado has higher food value than the olive. W. Popenoe; trees must be heavily mulched through summer ... three or four years old. Highest prices are received for fruit marketed after Christmas. It ripens well off the trees. J. C. Bosche; wrapping the fruits in paper makes them heat and spoil more quickly en route to market. Dean H. J. Webber; an exhibition of seedling fruits should be held each year to stimulate interest in selecting and propagating the best varieties. E. B. Rivers; $12 a dozen was received for many fruits handled last winter —there will be a heavy demand when the price gets respectable.

The State University has been working out methods of preparing avocado by-products such as oils, candied seeds, flour, etc. C. P. Taft prophesied a prosperous future for the industry. The Association decided to retain the American name Avocado.

CITRUS FROST INSURANCE.

(Continued from page 449.)

might make considerably lower temperatures safe if not so prolonged as to use up all the latent heat in the moisture and freeze the air dry. It is seldom that frosts come where the barometer is low (indicating high humidity). A simple instrument called a "sling psychrometer" may be used by anyone to determine the humidity in a minute or two, and may often serve to delay the firing an hour or more with safety. On the other hand, it is far better to waste an hour of burning than to be sorry, except in case of insufficient equipment when fires would not last through the night.

Green cover crops do much to prevent frost damage, by the heat contained in their sap and tissues, and perhaps by the moisture they transpire. Their influence in preventing air motion and mixture would scarcely offset this advantage. If they prevent freezing of a crust on the ground, they also keep open the reservoir of heat stored underground. A possible danger is that in winter they would not always be irrigated and might weaken the trees by robbing them of moisture.

Thermometers and frost alarms, accurate and high priced, are needed, not only at frosty spots in the orchard, but at similar locations away from influence of the fires so that outside temperature ranges may indicate whether more fuel will be needed or when to put out the fires.

Central Oil Tank. — Here and there, other systems besides oil pots are being tried out. One is to pipe oil by gravity to a burner at each tree. The burner is inside a pot which it heats red below but not so on top—keeping the heat more closely to the ground. Holes in the pots are not vital objections in this system. The pipes drain themselves when a valve at the storage tank is closed. Various systems of piping or blowing warmed air or steam to the trees have been proposed, but so far as we know their success has not been established.

The Grange Company of Modesto reports that indications point to a heavy yield in both beans and corn.



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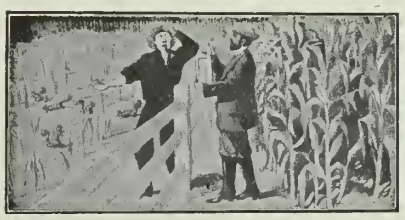
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Hints to Boys on Brand-Building.

To the Editor: I have read much that has been written on the 35-cent dollar, the advantages of the parcel post, and the getting together of the producer and the consumer. Theoretically it is fine. Practically there is much left to be desired. The difficulties that prevent the practical working of the theories are large. Take one instance: a producer brings to my house his vegetables. He expects to get the same price that is charged by the stores, that will deliver goods free, and he says so, claiming that I can do no better than buying from him. He apparently forgets that there are probably several stores who buy from as many producers who raise as good if not better produce from which I can select, to say nothing of the keen storekeeper who selects the choice of what is offered, so that he can hold his trade and beat his competitors, etc.

I have been interested in articles in eastern papers on apples by parcel past. You have no doubt seen them. I want a few of the best apples at a time, that are obtainable, and am willing to pay for them. I need not encumber this letter with details why I am dissatisfied with what I get. I live in hopes that there may be one boy, at least, in Northern California, Oregon, or Colorado that wishes to build for the future a business that will give him a competency and last a life time. This would call for character and honesty far above the average. There ought to be three boys of that kind; boys that can stand discouragement during the initial period, that could put a ticket in the package, something like this:

"The apples this year are particularly fine and I send you the best, but owing to crop conditions I may not be able to do as well other years. You will always get not only the best, but I have set my standard so high that when I cannot ship up to it I will return your money and say so. I am so confident that I can live up to this pledge I say, without any reservation, your money back if the quality of the apples is unsatisfactory. During the shipping season see my ad in the classified column of the Pacific Rural Press, or write to me direct as follows—Brand Builder, Appleville."

The thought of brand building is based upon my experience in New York, where from being a poor boy I worked up to a partner in a large concern. I remember that there was in Messina a large mauufacturer of oils, lemon, bergamot and orange. Of course he did not manufacture all he exported. Occasionally he would cable, "There is no more stock here fit for my brand." His brand advanced in price by buyers anticipating their requirements. Other brands declined, probably hastened by the doubt created by his action. He had no second quality or other brands. K.

Pasadena.

FALL WORK ON BORERS.

To the Editor: We have several inquiries how to treat borers in young trees. At this time of the year, if the tree contains one or more borers there will be noticed a dead, dark place on bark near the ground. On cutting into this the bark will be found to be dead and worm-eaten. With a sharp knife cut away all the dead and worm-eaten bark or wood, then paint the scar with grafting wax, first being sure you have found and destroyed the borer. He often goes to the center of the tree, if neglected that long, and then goes right up the heart of the tree. If you cannot locate him without splitting the tree a very good way is to use a hat-pin: push it in the hole as far as it will easily go. This will kill him. At this time of year borers are bad, particularly near timber, and if they are looked over in time many trees can be saved by this means. C. N.

Sebastopol.

[This is very good advice, but the work should have been begun two months ago. It is, however, better to go at it now than later. We have found a piece of pliable wire, like a hair pin, better than a hat-pin, which is usually steel wire and too stiff to easily bend into a form making it easy to enter and follow the burrow of the borer. If borers are allowed to eat away all through the fall the tree is quite apt to be girdled and killed outright.—Editors.]

BISULPHIDE FOR WEEVILS.

To the Editor: I saw an article in the Pacific Rural Press of October 9, 1915, on the use of carbon bisulphide for the control of the bean weevil. As I have had considerable experience along this line I thought it might be of interest to you. I have used carbon bisulphide for a number of years. I have fumigated beans, peas and all kinds of grains for weevils and moths and have had good success.

While many remedies have been recommended for the control of the bean weevil there is nothing that will compare with fumigating in an air-tight compartment. As soon as the weevils commence to show up the beans should be placed in a receptacle and fumigated. This can be done while the beans are in the sack, but will be more effective if emptied out in the fumigating room. The carbon bisulphide is poured in a shallow pan or tray and placed two feet above the seed. The pile of seed should not exceed four feet in depth. Seeds treated in this way should be left in the room for a period of forty-eight hours, which will be sufficient time to kill the weevils and moths in all stages.

Ventura. S. H. Essig,
Horticultural Inspector.

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Dried Peach Exports 700 Per Cent.

[Written for Pacific Rural Press.]

There is something mysterious and extremely interesting in the present relation of dried peach exportations to the prices quoted to growers. Pacific Rural Press has held hopes from the first that peaches would sell for at least the cost of production (figured between 4 and 5 cents by J. P. Dargitz, formerly of the Cal. Cured Fruit Exchange). The exports shown below, taken from U. S. customs house reports which are compiled directly from the cargo shipping manifests, would seem to indicate that the supply of dried peaches is rapidly disappearing. The latest figures available for the total U. S. exports to foreign countries are for the seven months ending July. These are all "old crop" peaches. During that period in 1913, U. S. exported 1,452,533 pounds. During the same period in 1914, U. S. exported 2,905,209 pounds. During the same period in 1915 U. S. exported 10,559,651 pounds. This was over 700 per cent increase in amount of dried peaches taken out of U. S. over the same period two years previous. Since California has a practical monopoly on dried peach production, these may be considered approximately as California figures.

During the same period of 1915 there were shipped from San Francisco by sea alone to Eastern U. S. ports through Panama Canal, 5,319,026 pounds of dried peaches, some of which may have been transshipped under the figures given above for exports from U. S. This is a paltry increase of a million pounds over the same period of 1914, but takes no notice of our shipments by rail, which we do not have for the seven months, but which amounted to 7,062,000 pounds from California in September, 1915.

The total California dried peach crop of 1914 was about 64,000,000 pounds. Estimates for the 1915 total are lacking, but every peach grower remembers the many orchards whose fruit was not dried last season as usual.

Shipments of dried peaches to foreign ports and to the Atlantic coast by sea from San Francisco are given by months below for 1914 and 1915 for comparison of shipments before and during the war. Some of the irregularities in quantity were due to interference on the Tehauntepec railway by Mexican troubles and part to the expected opening of the Canal.

Month	To foreign countries		To Eastern U. S. via Tehuantepec and Panama	
	1914	1915	1914	1915
J.	255.665	302,307	1,194,017	1,602,765
F.	314,486	2,341,740	1,449,072	1,374,547
M.	483,945	2,197,004	362,318	434,171
A.	210,786	1,358,855	990,955	592,225
M.	228,945	967,871	49,276	336,980
J.	139,772	473,734	76,395	562,508
J.	84,495	438,390		415,800
A.	304,266	327,861	68,125	380,994
S.	219,768	1,777,521	3,355,833	1,763,436
O.	446,117		1,656,840	
N.	371,748		2,660,348	
D.	1,121,994		1,937,242	

Taking the nine months of 1914 and 1915 available for comparison, the peach shipments by sea from San Francisco to Atlantic States were practically the same, but to foreign countries they jumped from 2,242,128 to 10,185,283 pounds, and this ought to warrant us in hoping that with a smaller crop last season, but about the same holdover as for several years, the end will be an entire cleanup. If so, as the cleanup approaches, the prices ought to rise for fruit that has been kept out of reach of the moths which lay eggs and make wormy fruit.

The mysterious part of the relation between the tremendously increased exports and the prices is that the prices to growers have persistently weakened since Jan. 1, with only one or two short rising waves. There is no doubt that the foreign market has increased greatly at the same time.

Peach growers who have held their dried product may well take notice of the splendid victory of the prune growers of Santa Clara valley for 5c prunes after a long, stubborn fight. The accumulated pressure recently became so great on the packers that they are now practically falling over themselves to pay the growers 5 cents. They are still holding the big-crop club, however, ready for use when the pressure shall be relieved, in spite of the Prune Growers' Committee estimates of a light crop.

The Chico development committee on Oct. 25 adopted a resolution, at the request of the Florida orange growers, asking Congress to make an appropriation for the extermination of citrus canker. It also adopted a resolution opposing the 8 to 1 standard of maturity test and mailed a copy to Congressman Kent.

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Mechanical Power on the Farm.

[Written for Pacific Rural Press.]

ENGINE CHOPS PRUNINGS.

To the Editor: I wish to have a word concerning A. B. C.'s inquiry of Sunnyvale regarding the cutting up of prunings as fertilizer. Three years ago we bought a 24-inch second-hand feed cutter and mounted it on a truck together with a 5 h.p. gasoline engine. Through this cutter have passed all the prunings for the past three seasons that has been taken from a 140-acre lemon grove twenty years old and 60 acres of oranges twelve years old. We find that we can cut it cheaper than we can haul it away and burn it, and since noticing the results we have come to look upon the hauling out and burning of prunings from an orchard as a kind of crime against the soil. **Kaweah Lemon Co.**

Lemon Cove.

TRACTOR LEVELING FOR ALFALFA.

Alfalfa was planted years ago on unleveled land in the Summit Lake region of Tulare county, but it became foul and weedy so its present owner, L. P. Denney, flooded and plowed it. Leveling and checking for irrigation proceeded as fast as possible, that it might be sown to irrigated alfalfa so soon as the weeds are cleaned out. Meanwhile and partly for the latter purpose, it was put into grain last fall. Mr. Denny is just finishing the job of leveling 400 acres with a Yuba 18 tractor and three scrapers which have been working fine. Grain this fall will finish preparing the land so it will be seeded to alfalfa next fall.

The Tweed ranch in Glenn county only recently finished leveling and ditching for 180 acres of alfalfa, which has become a necessity because now Mr. Tweed has only 2½ months of green feed for his large dairy herd. He has found that while a cow can live on dry feed, she doesn't give milk after two or three years. He used a Caterpillar and scraper.

TRUCK BEES TO PASTURE.

A motor truck to haul bees to new pastures appeals to L. D. Walker of Sacramento county, who has five apiaries. In the early spring he takes about 140 stands into the Fair Oaks section to get the wild flower and tree fruit honey. Deciduous honey is gathered and extracted before much orange honey is gathered. The latter is most desirable, being water-white and of delicious flavor. The oranges bloom in late April or early May for about 20 days of honey gathering.

The bees are then loaded onto a car and hauled back to the Sacramento river country for June to October. They make 40 to 50 pounds per hive in the Fair Oaks District and 60 to 75 pounds on Sacramento river carpet grass and alfalfa. The latter makes amber to light amber honey. This sells wholesale at about three cents per pound less than the water-white. So it pays both in quantity and in price per pound, to truck the bees back and forth.

A truck load of bees was recently photographed hy the Western Honey Bee for E. H. Ross of Los Angeles county, being just ready to move from the Santa Monica mountain sage range to the orange orchards. It contained "183 colonies in 10-frame hives with moving screens and covers." They were loaded, hauled 35 miles, and unloaded in an 8 hour day for $12 auto truck hire. They are hauled back to the sage pastures after orange blooming.

GOPHERLESS DITCH BANKS.

To the Editor: In your issue of August 14 I notice a letter from E. L., Winton, who writes you asking information regarding putting a cement surface in the banks of his irrigation canal to keep the same from being honey-combed hy gophers or other rodents of any kind.

At North Yakima, Washington, the Yakima Power and Light Company quite a number of years ago had considerable trouble with the power canal by gophers, and every once in a while a break would occur in the canal and do a great deal of damage by washing over the orchards and alfalfa fields and garden tracts through which the canal runs.

The president and manager of that canal was Edward Whitson. A narrow trench was dug through the



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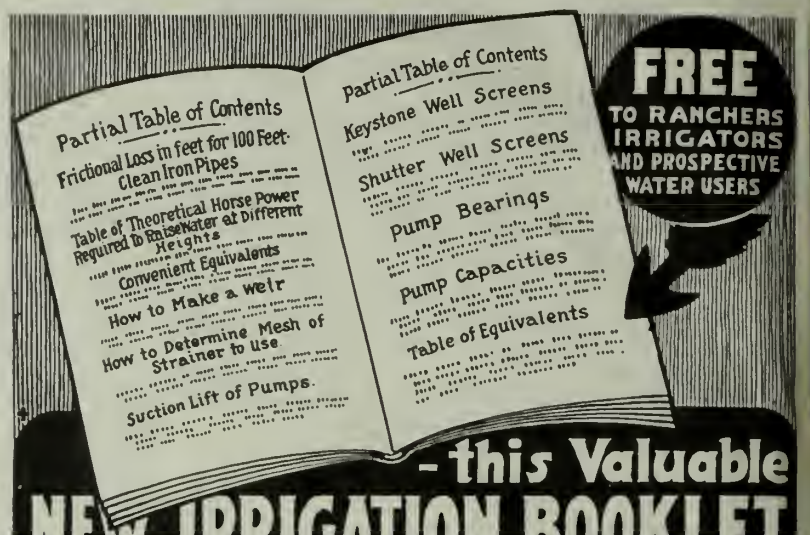
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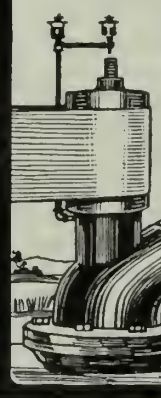
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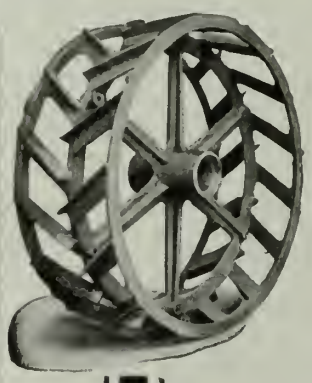


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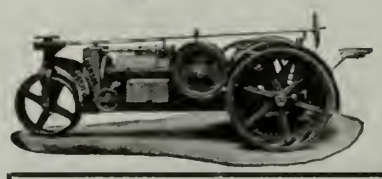
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center of the lower bank of the canal, parallel with the water. He dug this with a long steel bar, with a wide face on it about four inches in width. He used, to take out the dirt, a long-handle shovel, made in something of the manner of shovels that are used by the telephone companies in digging their deep holes; with this difference: he had it cut down to the width of the trench, and made over in the shape of a bowl. With this he lifted out the ground down to a depth of five or six feet. He then filled the same with a weak cement mortar.

He mixed the mortar on a scow that floated in the canal. On this he carried his gravel, sand, and cement along the line of his work without any extra handling.

The best way to get the mortar into the trench without washing down any of the ground, is to make a galvanized or sheet iron chute, in lengths, with an open funnel mouth at the top.

Pour your cement into that and it runs to the bottom of the trench. This chute was made in sections, so that it could be uncoupled as the concrete was filled in. He told me that it was a slow job and cost some money, but in the long run it was an economical piece of repair work.

E. C. Burlingame.

Walla Walla, Wash.

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PUMP REDEEMS GRAIN LAND.

To redeem worn-out grain land in the level part of Placer county by growing alfalfa to feed to livestock is the proposal of E. F. Edwards. He recently drilled 450 feet to water-bearing sand. A deep well pump was installed to irrigate 40 acres of alfalfa to be planted in the spring. If that works well, he expects to put in a great deal more.

SILAGE CUTTER HORSE POWER.

To the Editor: In reference to horsepower for silage cutting, one h.p. per inch of blade width will do as recently reported in your columns, but ½ h.p. should be added per cutting inch for elevating through a 10 inch blowpipe into 36 to 40-foot silos. A great mistake is made in underestimating the power to be added for elevating.

Oakland. **Wm. Curtis Clark.**

WANTS THE STATE TO MAKE SOME MONEY.

To the Editor: I have been reading what has been said in Pacific Rural Press on "Rural Credits." I have wondered why some one does not tell what the poor farmer needs most, and what we must have or quit farming. Why should we go on year after year raising crops to sell for less than cost of production? Why should we borrow money to improve more land to raise more crops to sell for less? Why not, if we must have speculators, the "State" make the profit on our crops? Then taxes might be reduced and schools and other public utilities improved and we be just as rich (?) as we are now.

Or why not have the State advance us enough money on our crops to enable us to sell our grain and other produce slowly and save for ourselves some of the difference between $24 for our corn now and $40 next May? What do you think about it? **Farmer.**

Stevinson.

[We think that it is thoroughly impracticable and undesirable—but there are ways by which farmers can be defended against unrighteous speculation and helped to get what their produce is really worth.—Editors.]



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No seed wasted, all the field sown. Van Brunt Drills have an adjustable gate force feed which compels an even, continuous flow of seed from each seed cup without bunching or cracking the seed. It cannot choke up. And the seed beats the dirt into the furrow because of the closed forward delivery.

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SAN FRANCISCO, CAL.

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Highest award at San Francisco and San Diego Expositions. The gold medal gas—first in carbureting qualities, in purity, in uniformity.



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the straight refinery gasoline
Standard Oil Company
(California)
San Francisco

General Agricultural Review.

GRAIN AND FIELD CROPS.

A normal crop of beans is reported for the Sacramento district this season.

A good crop of beans is now being harvested in the Tipton section of Tulare county.

The 1915 season of the American Beet Sugar Company at Oxnard closed on Oct. 26.

A large crop of corn is being harvested in District 70, Sutter county, some growers getting 25 to 35 sacks to the acre.

Celery shipping from the Antioch section commenced the early part of this week; a successful season is expected by the growers.

S. J. Vincent of Porterville has just finished threshing his corn crop; he produced 404 sacks of kaffir corn on 20 acres of unirrigated land.

The harvesting of rice has commenced on 100 acres of the P. M. Gow ranch near Dixon; this is the first crop of rice in Solano county.

The shipping of celery from the delta sections of the Sacramento Valley has commenced; indications point to a large crop of excellent quality.

The beet crop in Salinas Valley this year is said to be one of the largest ever harvested. The sugar factory has enough beet contracts to keep it going until the first of January.

Harvesting of rice on the Moulton Irrigated Lands in Colusa county is in full blast; the average yield is 55 sacks to the acre, though some of the land has produced as high as 70.

It is stated that heavy orders for beans from France and England have caused considerable excitement in the bean market. One reason given for the heavy demand for black-eyes is their use in Europe in the preparation of a substitute for coffee for the soldiers.

The harvesting of the sweet potato crops around Atwater and Livingston is well under way, says the Merced Sun, and most growers are preparing to store the sweets in cellars until the market price reaches a better figure than present quotations.

R. C. Townsend of Butte county planted experimentally a pound of broom corn seed on his ranch; a small quantity of excellent broom corn was produced and Mr. Townsend had brooms made from it on display at the recent Paradise Fruit and Flower Festival.

On account of the tomato shortage in the East and Middle West, the demand for California goods in the Mississippi belt has been so keen that the Central California Canneries' plant at Sacramento has sent agents into Nevada and Modoc counties to purchase all the product available in order to meet the demand.

At a recent meeting of the Sacramento Valley Development Association held at Willows, a resolution was passed asking that a member of each rice growing district of the State be appointed to serve on a committee to formulate plans for a State-wide campaign against water grass which, according to a recent warning sent out by the U. S. Dept. of Agri., threatens the rice industry of this State. It is stated that during the last three years, more than 2000 acres in the Sacramento Valley have been made useless for rice growing by this pest.

"At various times and from various sources there come new lots of Alaska wheat, Mummy wheat, Egyptian wheat, Seven Headed wheat, offered as seed to farmers at fancy prices," says Prof. G. R. Hyslop, crop specialist of the Oregon Agricultural College at Corvallis, Ore. "This type of wheat, which is so different from the ordinary varieties, nearly always appeals to farmers who are not acquainted with it and there is a strong incentive to purchase the seed and frequently to pay a very high price for it. This variety of wheat has been tested at the Oregon Experiment Stations, and in no case has it been proved to be as satisfactory a yielder or as good in quality as several other of the standard varieties."

GRAPES AND SMALL FRUITS.

To date, Oct. 31, Livingston, Merced county, has shipped out 100 cars of table grapes.

A carload of wine grapes was shipped from Placerville Oct. 26 to Chicago, selling for $19 a ton.

Over $408,000 is to be distributed to patrons of the California Associated Raisin Company within a few days. This is in addition to $329,565 payable for raisins already delivered, besides $368,066 advanced to growers. The Company now has on hand raisins to the value of $800,000. The 1914 crop has been entirely disposed of in the face of the 1915 largest Muscat crop the State has ever produced. This is due to European conditions and to advertising and salesmanship employed to increase consumption. The European demand is still good and the Company is in the best financial shape ever.

MISCELLANEOUS.

The Fifth Annual Land of Kerman Flower Show is to be held at Kerman on Nov. 6.

An irrigation system to cover a large area of land between Suisun and Rio Vista is under consideration by land owners of those sections.

An irrigation district of 7000 acres is planned for Thermalito, Butte county; the main source of water supply will be the west branch of the Feather River.

Tulare county farmers are making an organized effort to rid their lands of squirrels, which have increased in great numbers since the last campaign against them.

Petitions have been circulated requesting the Government to open 100,000 acres of what is claimed to be fine agricultural land in Trinity and Humboldt counties.

On Oct. 25, 7805 acres of land in the Imperial Valley were thrown open to entry; the land will be divided into tracts of 10 acres to a quarter section and will remain to settlement by homesteaders up to Jan. 1, 1916.

Prof. M. E. Jaffa, director of the pure food and drug laboratory of the University of California, has been appointed Consulting Nutrition Expert for the State, his duty in this connection being to see that the food at the State institutions is up to standard.

OLIVES AND NUTS.

Olive harvesting in the Oroville districts is well under way at this time.

It is stated that Esparto, Yolo county, produces one-fifth of the State's output of almonds.

Walnut packing is in full swing at the house of the Anaheim Walnut Association, which expects to ship 250 tons of nuts this season.

An early Mission olive tree absolutely true to type, with fruit ripening early in October, has been found on the ranch of W. J. Moore of Pleasant Grove.

Fred K. Howard, horticultural commissioner of Kings county, in his monthly report, states that the olive orchards in that county are in healthy condition with the trees free from pests and diseases.

California Garden-Flowers

SHRUBS, TREES AND VINES

Being Mainly Suggestions for Working Amateurs.

By Edward J. Wickson,
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FIRST EDITION—1915.
262 pages; 5½x7½ inches; illustrated; cloth bound;
12 full-page photo-plates and numerous text illustrations.

This book aims to tell the beginner in California, whether he be a scholar struggling with his school garden, or a suburban gazing vacantly on his residence lot, or the farm-home-maker, who is puzzled to translate his experience with teams, plows and pasture fields into trowels, pruning-shears and lawns, just what to do to make garden-soils grow plants and surround his abode with beauty under the peculiar climatic conditions of California.

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INSTRUCTION BOOKS and prices, bees, supplies, etc. free. Spencer Apiaries, Ventura, Cal.

LAND FOR SALE.

SCHOOL LAND FOR SALE—600,000 acres to select from. Lists, particulars, SCHOOL LAND MAP, $2.50. Also county sectional maps showing GOVERNMENT LAND, $2.50 any county. Order TODAY. "Land Reporter." NOW, until 1917, $2.50. Subscribe at once. JOSEPH CLARK, Sacramento.

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FOR RENT—300 acres of alfalfa land. Apply to J. H. Gilde, care West Sacramento Co., Sacramento, Cal.

MISCELLANEOUS.

MOGUL TRACTOR, 45 H. P. with Saunders disc plows, cuts ten feet, used one season, fine condition, will demonstrate. Have no use for this outfit, so will sell at half-cost and give terms, or exchange for horses, mules, or cattle. Address W. H. Hord, 704 Market St., S. F.

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SECOND HAND WATER PIPE and screw casing. New threads and couplings dipped in hot asphaltum. All guaranteed. Send us your inquiry. SHECTER PIPE WORKS, 306-8 Howard St., San Francisco.

MINERAL WATER FACTORY in Java, (Dutch East Indies) wishes to communicate with manufacturers of **Pure Fruit Juices.** For information address Thos. A. Meyer, Box 103, Stevinson, Cal.

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WALNUT TREES—Eureka and El Monte varieties a specialty; also Franquette and Placentia. Write for prices and description of stock. Personal inspection invited. Eureka Walnut Nursery, Montebello, Cal.

RECLEANED ALFALFA SEED, excellent color, very high germination, first-class quality, 19c per pound, F. O. B. our railroad station. Send for sample. E. F. Sanguinetti, Yuma, Ariz.

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10,000 APRICOT TREES on Apricot root. Selected bud and true to name. James J. Dale Nursery, State Highway, Mountain View, Cal.

ALMOND and other fruit trees. Get our prices. We contract to plant with dynamite. Panama Nursery Co., Concord, Cal.

ADDRESS MILWAUKEE NURSERIES for French Prune Trees on Myrobolan Plum roots. Milwaukee, Oregon.

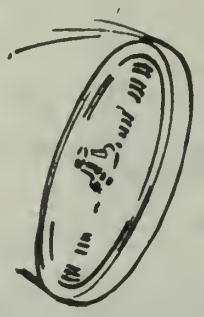
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MICA AXLE GREASE

would still be the best axle grease you could buy. But the mica makes it even better. Mica resists heat and is a good lubricant also. Keeps the spindles cool and slippery. No worn boxes. Dealers everywhere.

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(California)
San Francisco

urt Bros., olive growers of ermo, have recently installed two hydraulic presses to their mill ipment and are now able to crush r 500 tons of olives for oil in addon to their own large crop.

n our issue of Oct. 23 we stated t the Fair Oaks Fruit Company decided to pool the oil olive crop fall and that each grower who ticipated in the pool must accept f of his pay in stock of the comy. W. W. Hinsey, secretary of company, says this should read follows: "Oil olives should be led this year, the grower to be d when the oil is sold, all it sells less cost of operating and stor. . . . . Therefore, the recomndation of the Directors is that h grower or stockholder desiring es processed, must now have or uire from the Fairoaks Fruit mpany one-half share of stock for h ton delivered. This will be a inning toward proportionately ncing the olive plant by those ng it."

DECIDUOUS FRUITS.

Pajaro Valley will ship about 0 carloads of apples this season; ces range from 80 cents to $1.00 ox, according to grade.

t is planned to reorganize the San nando Fruit Growers' Associah along new lines; a meeting for s purpose was held on Nov. 3.

At a recent meeting of peach wers held in Merced $740 was scribed to the million-dollar ch organization; at a meeting at rlock, $2000 was pledged.

At a recent meeting of the mems of the Hemet-San Jacinto Grow' Association, the acreage subiption fee was raised from $15 acre to $25; this action was taken order to provide a cannery of sufient size, etc., to take care of all fruit offered by the members.

Placer county growers recently orhized the Auburn Fruit Exchange, growers pledging 70 carloads of it next season. The following ofers were elected: J. A. Teagarh, president; J. H. Andregg, vicesident; C. C. Jeffries, J. M. Bean, x Ammonds, Thos. Stanley, and L. Teagarden, directors. A packhouse will shortly be built in burn.

CITRUS AND SEMI-TROPICAL

It is expected that oranges will late this season in the Oakdale trict.

Regardless of the recent ruling of e Department of Agriculture, Tue county shippers will volunrily observe the 8 to 1 standard maturity.

San Dimas citrus growers broke records for shipments during the ason just closed, shipping 648,286 xes of oranges and lemons, as ainst 460,908 boxes the previous ason.

The Comet Citrus Association of rterville has been allowed to ange its name to the Mid-Califora Citrus Association by the Judge the Superior Court of Tulare unty.

According to shippers in Porterle, the warm weather of the past ree weeks has retarded the develment of oranges, and it is expect that the fruit will be later than ual.

W. T. Ogden of Butte county reived a jujube tree from the U. S. ant Introduction Gardens at Chico, hich has already begun to produce his ranch. Mrs. Ogden processed box of the fruit and displayed it at e Paradise Fruit and Flower Fesval.

As the result of protests, it is said at no attempt will be made by the epartment of Agriculture to interre with this year's interstate shipents of California oranges and the to 1 test will not be enforced this ear. The department will only revent shipments of oranges that re heated, sweated, or otherwise tificially colored.

"FALKI" BEANS.

To the Editor: Will you please give me all the information you can about "Falki or Chinese beans"? When is the best time to plant them? Are they large like Lima beans or are they small or medium? Are they a true bean or are they a cow pea like Blackeye, or a vetch like garbanza? — Reader, West Sacramento.

[Answered by G. W. Harney, Marysville.]

I am sending you a few specimens of the Falki bean. The seed of this bean is said to have been brought from China by a local Chinese gardener. It has been grown in the Chinese gardens near here for several years. The seed is planted in the late spring, it is a climbing bean and is grown on brush supports six to eight feet high. It bears continuously during the year until stopped by heavy frosts. It is quite a prolific bearer, and in that respect seems to be fully equal to the common string bean which is grown in the same manner. I notice that the ground is kept quite moist, in fact wet, around the roots in the gardens here. The name "Falki" is a local name given it by the Chinese here and is taken from the name of a shipping firm—H. Falk Company—who have made some little effort to market the product. It is held in great favor by the Chinese and has been sold as high as thirty-five cents per pound, so it is said by Mayor Harry Hyde, who speaks a Chinese dialect and is agent for the American Express Company. It does not seem to be considered a very important crop by the Chinese gardeners here, as I notice in the gardeners where they have an acre or two of the common string bean they will have only a short single row of the "Falki" fifteen to twenty feet long.

[The bean is small and brown and is of the "yard-long" branch of the cow pea family (Vigna sinensis).—Editors.]

The bean yield in Salinas Valley is reported above average.

CROSSING THE SIERRAS

Ogden ROUTE

To the East

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Forty miles of San Francisco Bay Shore.
Foothill orchards of the Sierras.
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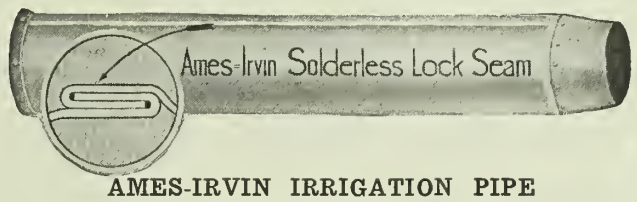
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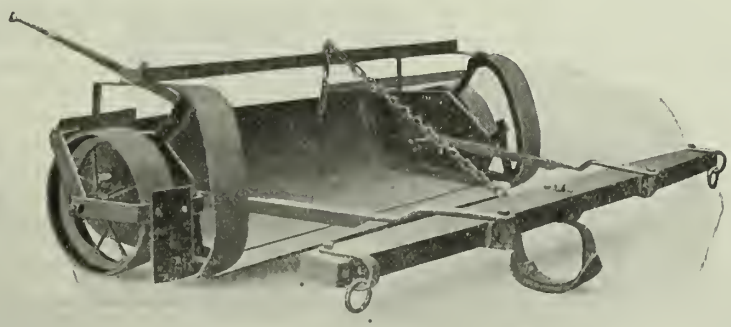
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(Report of University of California Experiment Farm.)



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The meaning of the above equation is simply this:

THE NEW SCHMEISER WHEEL SCRAPER

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requires only 69 hundredths of a pound of pulling energy for each load pound in the scraper. It moves 69-100 of a cubic yard of earth with the same ease as the old style Fresno moves 53-100 of a cubic yard. A gain in efficiency of 30 per cent (.69 yard—.53 yd. equals .16 yd. .16 yd. equals 30 per cent of .53 yd.)

Why? Because it rolls along smoothly and easily instead of sliding jerkily. IT IS BUILT ON WHEELS! A labor saver—A PROFIT BOOSTER! And the cost is so low that it pays for itself in no time. STOP DRAGGING THE LIFE OUT OF YOUR HORSES WITH THE OLD-TIME "FRESNO."

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51 MECHANIC STREET. Send for Description and Full Information. DAVIS, CALIF.

Farm Feeding Problems.

[Answered by Prof. F. W. Woll, University Farm, Davis, Cal.]

TEN SHEEP OR ONE COW ON FIVE TONS ALFALFA.

To the Editor: I would like to know how much alfalfa hay does the average dairy cow consume in a year without other feed or pasture, and how many sheep could be kept on the same amount of feed under the same conditions? — Mrs. J. J., Livingston, Cal.

A dairy cow fed alfalfa only will eat an average of 30 lbs. of hay per day or about five tons of hay in a year. A sheep of medium weight, on the other hand, will eat about 3 lbs. of alfalfa hay daily without grain or pasture. It is generally assumed that 10 sheep can be kept on the amount of feed required by one cow.

BARLEY STRAW AND ALFALFA HAY FOR STEERS.

To the Editor: How much barley straw and alfalfa hay—half and half—will it take to feed a "short yearling" beef steer for six months? What gain in weight could I expect? Would it pay to feed a small amount of grain?—H. C. S., Stratford, Cal.

[I cannot say how much barley straw and alfalfa hay, half and half, a yearling steer would eat. The amount would depend on how much straw he can consume in addition to alfalfa hay. If the correspondent is bound to feed equal parts of the straw and hay, the steer would not get sufficient nutriment to make satisfactory gains even if some grain is fed. If he is anxious to feed as much straw as possible, I would suggest that he give, say 6 lbs. per head daily and feed alfalfa hay ad libitum, of which the steer will then eat somewhere around 15 to 20 lbs. daily. I would not expect very large gains even on this ration unless some grain is fed, say at least 2 to 4 lbs. per head. With the latter amount of grain and roughage as suggested, good yearlings would probably make a gain of one and one-half to two lbs. per head daily on an average for the six months.]

FEEDING SCRUB HOGS.

To the Editor: Will you tell me the best way to feed a lot of nine scrub hogs for fattening: I have my last to dispose of and no more for me, thank you. Pure breds from now on. I have milo maize, ground head and all, tankage, about 75 lbs. skim milk daily, and alfalfa hay. Hogs weigh about 50 lbs. apiece with good frames. Would you soak milo in milk or soak with water and add milk? Should tankage be fed wet or dry? That is, wet long before feeding.—F. M. B., Hanford.

[The method of feeding scrub hogs will not differ from that of feeding purebreds if satisfactory results are to be obtained. If scrub hogs or scrub live stock in general were better fed and cared for than is now generally the case, or received as good treatment as most purebred stock, the difference in the results obtained with the two kinds of farm animals would be much smaller than at present. However, purebred live stock has the advantage in being bred for a long series of generations with a specific purpose in view and they have gradually assumed the body conformation or characteristics that best serve this purpose. Furthermore, and this is most important for the breeder, they may be counted on with a fair degree of certainty to transmit their characteristic qualites to the offspring.

With the feeds at the disposal of the correspondent, there should be no difficulty in securing satisfactory gains. We suggest that the hogs be fed 3 per cent of their body weight in the form of grain, viz.: 9-10 of milk and 1-10 tankage, the milo being soaked in water or skim milk and the tankage added just before feeding. In addition, the hogs are given all the alfalfa hay they will eat and about four times as much skim milk as the amount of grain fed. This will take all the available skim milk at the start and if more milk cannot be obtained, the proportion of skim milk to grain is reduced and somewhat more grain fed so as to secure a body weight of toward 200 lbs. at the close of the fattening period.

FEED VALUE OF EGYPTIAN CORN.

To the Editor: Please tell me the feed value of Egyptian corn in comparison with ground barley. In other words, which is better to fatten hogs, Egyptian corn or barley when soaked in skim milk?—F. S., Live Oak.

Egyptian corn contains about 8 per cent digestible protein and 71 per cent digestible carbohydrates and fat, while the corresponding figures for barley are 9.4 per cent and 75.9 per cent, respectively. Barley is, therefore, a somewhat more valuable feed than Egyptian corn. Practical feeding experiments with hogs have shown that the latter possesses about 10 per cent lower feeding value than Indian corn or other cereals. This figure will doubtless be found approximately correct for the comparison of the value of the two grains for fattening purposes. Like all small grains, Egyptian corn should be ground or soaked in skim-milk or water for feeding to hogs or calves, and should be ground when fed to mature animals.

GRAIN FOR FATTENING HOGS.

To the Editor: In the Pacific Rural Press you have been advocating raising more hogs in Cal. Around here we are beginning to feel the other way about it, especially small ranchers. . Our barley costs us about $1.10 a cental, and recently I read in your paper that it takes 500 lbs. to put 100 lbs. of meat on a hog. We are offered 6 and 6½ cents a lb. for our fat hogs; and then no market close and there seems to not be much of one in S. F. Will you please tell me if I am right, and, if so, will it pay?—J. A. C., Madera, Cal.

It is true that it will take toward 500 lbs. of grain to put 100 lbs. on the hog, but this amount can be greatly reduced by furnishing cheaper feed with the grain, like alfalfa pasture or alfalfa hay, in which case only 200 to 300 lbs. will be required per 100 lbs. gain in body weight. It is often possible to utilize barley in stubble fields for fattening hogs. This would otherwise be wasted and has no market value. Feeding grain to fattening hogs also pays for the reason that it shortens considerably the feeding period and improves the dressing percentage and the quality of the pork produced. According to the figures given by the correspondent he is getting full value for his grain and has not, therefore, much cause for complaint. It is, of course, necessary to use good judgment in feeding grain to hogs as well as to their other farm animals in order to come out ahead. Fortunately we can have excellent alfalfa pastures in the main swine-raising sections of our State and are, therefore, able to lessen the cost of producing pork.



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California's Opportunity for Dairymen.

[Written for Pacific Rural Press.]

BUTTER MAKERS DECIDE ACTION NECESSARY.

What we have said regarding the poor quality of California butter and the opportunity presented at this time to improve conditions was given added weight last week by the California Creamery Operators' Ass'n at their annual convention held in San Francisco.

All that we have said regarding butter was mild compared with the abuse these butter-makers heaped upon themselves and their product; and the speakers did not mince words in pointing out the necessity of immediate action in order that we may be prepared to export next year's surplus at prices, and in sufficient quantities, to relieve stagnation in our own markets.

E. H. Webster, formerly with the Dairy Division of the U. S. Dept. of Agriculture, later with Hoard's Dairyman, and at present general superintendent of the California Central Creameries, announced that this is the transition period in California dairying, the period in which the change from an under-production to an over-production and consequently an exporters' basis.

He predicted an overproduction of butter next year of 10,000,000 pounds. He quoted a recent visitor to Australia as saying that "California butter merchants need not count on an Australian market again" and read letters from Australian correspondents saying that there was much dissatisfaction with California butter and that retail merchants returned portions of the last shipment to their dealers with the remark-"Not wanted." "Our first attempt as exporters has been a failure," stated Mr. Webster; "our goods, with the exception of two or three standard brands, will not be in demand in Australia again for years."

Mr. Webster stated that from now on every dairyman and buttermaker whose product is sent to the San Francisco market is a possible exporter. If exporting is successfully carried out grading cream on its quality and pasteurization must be universal.

W. H. Roussel, president of the Association, stated that many large creameries in the State have met financial disaster the past year owing to the inability to market poor goods at a profit and predicted that more will follow unless our butter is improved in quality sufficiently to allow competition in the world's markets with good butter in good packages.

C. L. Mitchell, manager of the Challenge Cream and Butter Co. of Los Angeles, the selling agency for the Dairymen's Co-operative Creamery Ass'n and the Riverdale Co-operative Creamery, stated that "We are now face to face with a situation which has been prophesied in this state for years — overproduction," caused by marvelous development of the dairy industry in recent years. He believes that unless there is immediate improvement in the quality of our product there is a strong likelihood of our butter quotations dropping below the cost of production. He pointed out the benefits of co-operative creameries in this respect, claiming that the direct interest dairymen have in the selling of co-operative creamery butter causes them to take better care of their cream and to welcome criticism. "Our surplus butter, handled in the same sensible way that our fruit organizations handle their products, would not be a menace and might be a blessing. Allowed to glut our markets, bankruptcy may overtake many an unfortunate dairyman."

F. H. Andreason, secretary of the State Dairy Bureau, advised the meeting that his department of the State was alive to the evil of poor cream and that his bureau has sent out 10,000 letters the past summer to dairymen in the State, advising them that the law which requires the cooling of milk as much as practicable, within one hour after being drawn from the cow, will be enforced by prosecutions when necessary. Thousands of cream coolers have been installed by dairymen during the past few months and many creameries report great improvement in the quality. Many creameries will not accept cream from patrons who refuse to install coolers, while others are paying more for cream that has been cooled, in an effort to encourage the dairyman.

S. H. Greene told the meeting that an excess of poor butter on the market pulls down the price of all butter, that any noticeable development of both the local and distant butter market can only be secured with butter which grades as "extra." People will consume more butter scoring "extra" than they will "prime firsts" and the more "extras" we produce the broader the outlet.

The man who affects the butter market permanently is the buttermaker and dairyman, and any exporting business must be done with a quality of butter superior to the present supply which runs now about 25 per cent "extra," 75 per cent "prime firsts" and "firsts."

He explained the creamery manager's position, who has seen the trend of the times and inaugurated a cream-grading system, saying that many dairymen believed the creameries were doing this to buy cream cheaper. Such is not the case; the creameries pay less for poor cream not because they want more of it but because they want more good cream at the higher price.

John Sollie maintains that to manufacture butter which will stand the delay of consumption that is necessary in exportation, pasteurization of cream by butter makers will be necessary. This can be accomplished with little if any additional cost over other methods.

Other speakers were F. H. Bothell, U. S. Dairy Division, Salt Lake City; J. C. Phillips, Imperial; A. J. Glover, Ft. Atkinson, Wisconsin; Chas. G. Johnson, Sacramento; Prof. Elwood Mead; Dr. Wm. C. Hassler.

A resolution was passed requesting the University of California to inaugurate, through its extension department and other means at its disposal, an educational campaign among the dairymen of the State in matters pertaining to the production of a more sanitary grade of cream, the more general weighing and testing of milk and cream and the more general use of purebred bulls. The association went on record as favoring the holding of more dairy farmer institutes and agreed to co-operate with the University in the holding of such meetings.

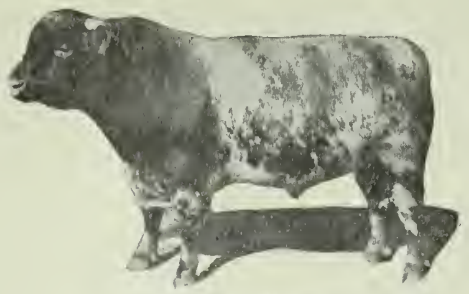
A resolution was also passed requesting the U. S. Department of Agriculture to recognize the dairy industry in California by establishing stations in the State where dairy investigations could be made.

Ferndale, Humboldt county, was selected as the meeting place next year, and the following officers were elected: President, H. F. Harbers, Grizzly Bluff; vice president, J. B. Hopkins, Petaluma; secretary-treasurer, L. M. Davis; Directors, C. E. Gray, San Francisco; N. J. Beck, Visalia, and W. H. Roussel, San Francisco.

T. S. Glide of Davis recently shipped two fine sheep to Honolulu.

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With the Live Stock Men.

DAIRYING.

Fred Ross of Hanford recently sold two Holstein bulls to Morris & Sons of Woodland.

J. E. Thorpe of Stockton has worked up a fine local butter trade on the production of his Jersey herd.

Clark & Marzorini of Paso Robles recently sold to Geo. Hook of King City twenty 15-16 Holstein cows for $2000.

Nathan Rosing of Los Angeles recently purchased 120 acres of alfalfa land near Porterville, from W. H. Nelson and will start a dairy there.

Geo. E. Peoples has recently been elected Manager of the Kerman Creamery at Kerman. Close to 1500 pounds of butter are made daily by the Creamery.

C. A. Bibbles of Dos Palos sold out his registered Holsteins a few years ago. He couldn't stay out of the game, so last spring bought a few heifers for a fresh start and will soon have quite a herd again.

Edw. R. Polhemus of Elk Grove recently sold his ranch on Deer Creek, near Cosumnes, to A. Saner of the Cosumnes district; the new owner will convert the tract into a dairy.

A cow testing association is under consideration for Scott Valley, Siskiyou county; at the recent farmers' institute held in Etna a committee was named to canvass the county in the interests of the association.

The Visalia Co-operative Creamery will open a branch house in San Francisco, with A. M. Eckleson, cashier of the company, in charge. This move has been made necessary on account of the demand for Visalia butter at the Bay cities.

The butter fat producing contest of the Butte County Cow Testing Association has started; to stimulate interest in the testing, a silver loving cup will be presented to the owner of the cow producing the largest amount of butter fat for the year.

C. G. McFarland of Tulare reports having sold five head of his registered Jersey cattle to J. E. Wherrell of Riverside, for a total of $1,250, says the Tulare Register. One bull sold for $200, a heifer sold for $200, two cows sold for $300 each, and another cow for $250.

Frank C. Clark, graduate of the University of California, on his ranch at Loyalton, experimented feeding mistletoe to cows and found it not only nutritive, but relished by the stock. Care in feeding it, however, has been recommended by the University on account of it being practically an untried food material.

Alcartra Abbekerk 3rd Prince has just been received by Clark & Mazorini of Paso Robles from McKay Bros. of Waterloo, Iowa. The dam of this bull is a half sister to Tilly Alcartra. His sire's first three dams' records averaged over 30 pounds butter in seven days. His dam has a two-year-old record of 15.77 and his dam's dam has a 27.88 pound record.

Dairymen of the Barstow colony of Fresno recently formed the Fresno Co-operative Dairy Association, electing the following officers: President, J. W. Holland; secretary, J. A. Schlotthauer; directors, W. J. Anthony, W. F. Barnett, J. A. Schlotthauer, Stephen Guler, and J. W. Holland. The general purpose of the association will be to furnish the trade with a high quality of milk and cream.

Dr. Belknap of San Jose has the gutters of the cow barn sprinkled once daily with a solution of sulphate of iron to keep away the flies and sweeten the air. The solution is made of five pounds of sulphate in a fifty-gallon barrel of water. His sprinkler is made of wood as tin or iron is eaten by the solution. Arsenate of soda, 2½ pounds; sugar, 5 pounds; and water, 50 gallons is kept in a barrel and used to spray spots where flies breed; this kills them.

The October report of the Stanislaus Cow Testing Association shows that 91 of the 1497 cows being tested produced at least 1.5 pounds of butter a day. Lady Nadine, a purebred Holstein cow, belonging to P. Brunold, leads all other cows in the Association, having produced 2653 pounds milk, 82.1 pounds butter, 3.1 per cent fat during the past month.

HORSES AND SWINE.

Guthrie Large of Monterey is selling out his herd of registered Durocs.

G. H. Duboise of San Martin reports having sold four registered O I C hogs recently.

J. M. De Vilbiss writes us that his son, Clyde De Vilbiss, was the winner of the Patterson High School pig feeding contest.

A trio of Berkshire sows were shipped by F. C. Bohnett of Campbell to J. O. Stradbug of New Mexico recently.

C. G. McFarland of Tulare recently purchased a thoroughbred Poland-China boar from Geo. A. Smith of Corcoran.

Since the opening of the war, a total of 174,285 horses have been purchased at East St. Louis, Ill., by England and her allies.

A Boys' Pig Feeding Club has recently been formed at Hughson, with an entry of some eleven or twelve boys from that district.

Chas. R. Fillon, of Metz, Salinas Valley, Poland China breeder, reports that he cannot nearly supply the local demand for breeding stock.

At the meeting of the Stanislaus County Farm Bureau on Oct. 23 a movement was started for the formation of a swine breeders' association for that county.

The University Farm shipped a carload of fat hogs to the Western Meat Company on Oct. 27; they also shipped a fine Berkshire pig to Honolulu on Oct. 26.

Merrill & Son of Morgan Hill report having sold F. G. Frazel of Hollister one boar; a sow each to Henry Rainstroff, Mountain View, G. A. Cassey, San Jose, and A. M. Kinkaad, Morgan Hill; and one boar to M. Choen of Irvington.

C. R. Hushback of Watsonville bought from A. D. Welsner of Gervais, Ore., 3 Duroc Jersey sows which were in the First Prize litter at the Oregon State Fair, 1914. These sows farrowed at 14 months old 32 pigs.

W. J. Hanna of Gilroy reports shipping some of his choice Poland Chinas to: Geo. A. Smith of Corcoran; Lenard Bros., San Benito; J. J. Flanning, Santa Clara; and S. S. Harris of San Martin. His herd is headed by a son of A. Wonder.

Considerable interest is being taken in the Hollister district in purebred hogs. D. Bache is breeding registered Chester Whites; W. A. Pack, registered Duroc Jerseys; B. B. Shaw and McConnel, registered Poland-Chinas. Practically all the surplus breeding stock of these ranches is being disposed of locally.

Entries at the Panama-Pacific Exposition hog show which started the fore part of this week indicated that the Berkshire breed will be shown in larger numbers than any other breed. Out of a total of 51 entries in this division, there were 23 Berkshire breeders, 13 Duroc-Jersey breeders, 10 Poland-China breeders, and 5 Hampshire breeders, the show being participated in by breeders from Oregon, Washington, Idaho, and California.



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YOU CAN COMMENCE FEEDING it just as soon as the silo is filled, and by next spring it will be empty and ready to receive that first cutting that as hay is usually not worth handling because of the weeds it contains, and the trouble usually experienced in curing it.

THE SPRING FILLING can in turn be fed out in plenty of time to receive the crop of corn in the fall, thus enabling you to fill your silo three times within less than a year, by filling of which will pay you enough profit to buy the silo and at the same time provide the equal of the very best of pasture for the year round.

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from cows on yearly test-making good-sired by our herd bulls KING'S VALET (imported), VALET'S KING OF L. BORELLO'S GOLDEN LADDIE, GRACE'S FOX OF VENEDERA, and NORMA'S GERBIE SON OF L, backed by production and winnings in the show rings.

They are of FINANCIAL KING, GOLDEN LAD, GOLDEN FERN'S LAD, MARIGOLD and ST. LAMBERT blood, the kind that improve type, cream production and persistency. One cow gave 49.5 lbs. fat in 11th month; her daughter gave average test of 8.38%; another gave 79.9 lbs. fat in one month, 238.9 lbs. fat in 134 days. A 2-year-old gave 50.6 lbs. fat in one month—all under dairy conditions.

We have bulls from such cows, with correct type.

Dairyman's Opportunity

For $50, a yearling bull by VALET'S KING OF L, out of a good cow. $25 for bull calves under 30 days old. Tabulations, but no Registrations at this price.

Come and see them, send for catalogue, or write us your needs, and we will give you satisfaction and profit.

N. H. LOCKE CO., Lockeford, Cal.

epidemic of cholera is feared e Los Banos and Dos Palos sec-. Several of the big breeders vaccinating their herds.

as. Gatewood of Fresno reports g sold within the last few s eight head of registered nd-China hogs. At the 1915 no District Fair this herd took rsts and thirds.

rchases of horses and mules rmy purposes are still being in the vicinity of Stockton. It ted that over 850 animals have shipped from that point since pening of the war, and that an ge of a carload a week is leav- here at this time.

L. Varney of South Dos Palos gone into hog raising in the r way. Thirty Berkshire brood were secured last spring from of the best herds in the State; number will be increased as the g stock develops. It is the to save only the very best for ing stock; the rest will be sold e butcher.

CATTLE AND SHEEP.

midt Bros. of Salinas are ac- lating a small herd of Red d cattle.

is reported that rabid coyotes oing much damage to the cat- northern California, and that nger of an epidemic from that e is imminent.

e removal of the embargo upon ican cattle opens to American ers a most promising market in tina that has formerly been polized by the British.

e Paicines Ranch Company has tly purchased 4300 acres of has been known as the Mc- Ranch at Paicines from T. S. ins and Elwood Varney; this be used as range land.

e Healdsburg Tribune states cattle raisers in that vicinity complaining of the scarcity of cattle for the ranges this win- d are seeking elsewhere to sup- eir needs.

W. Wiley purchased of the Hop- Stock Farm of Hopland one of rize-winning Shorthorn bulls at anama-Pacific Exposition. He ecured another registered bull the Paicines Ranch, San o county. He will buy a few es when the opportunity ar- to stock his 3000-acre ranch Salinas Valley.

J. S. Harding of Chicago, secre- of the American Shorthorn ers' Association, while visiting xposition recently stated that rnia has every opportunity for g the cattle business as profit- s it is in Argentina. These de- ns were drawn by Mr. Harding a comparison of conditions in rnia and South America.

MISCELLANEOUS.

R. E. Duckworth, a recent gradu- the San Francisco Veterinary e, has hung up his shingle at .

A. J. Glover of Wisconsin thor- believes that a man will not d with a breed of livestock that not love best of all even his conditions are better for one breed than another.

A the meeting of the Murray hip Center of Alameda county eld on Nov. 8, Dr. C. L. Road- of the University of California eliver an address on "Live- Diseases," dealing especially nthrax and blackleg.

Revada Ranch north of Napa ilt this season a 24x100 foot ed, a concrete dipping tank, et deep, five feet wide, 20 feet n the top, and six feet long bottom. A dripping board so made of concrete next to nk. Cows and horses will be as well as hogs. They now nder construction a machine 20x30 feet, with sleeping ents supplied with shower nd every convenience for the ands.

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CHAMPION CUERNSEYS—We showed 3 Champions and both Grand Champions at San Francisco; 1st in all females down to calves; also 1st on 5 cows in milk. Write for pictures and pedigrees of young bulls out of A. R. cows. Edgemoor Farm, Santee, Cal. W. H. Dupee, Owner.

REC. HOLSTEINS—We offer choice grandsons of King Begis, also grandsons of the world's record cow, Creamelle Vale; blood that increases the value of your herd. Write or call and see our herd. F. H. Btenzel, San Lorenzo, Cal.

REGISTERED HOLSTEIN COWS and heifers bred to Colantha Sir Pontiac Aaggie for sale. Also bull calf by him from a 24-lb. cow. K. W. Abbott, Milpitas, Cal.

HOLSTEIN BULLS—Purebred young Holstein bulls for sale on Thompson Ranch, near Napa. For prices and particulars, address J. B. Agee, Napa, Cal.

FOR SALE—Registered Holstein-Friesian bull calves, sired by sons of King Pontiac Artis; $80 to $300. E. A. Claussen, 1139 Devisadero St., San Francisco.

FRANK MEACHAM, Petaluma, California.—Breeder Red Polled cattle, both sexes. Take electric cars at Santa Rosa or Petaluma for Live Oak.

SUNNYBROOK RANCH, Willits, Cal.—Breeders Registered Holstein stock. Young bulls for sale sired by Ruby Gem Cavary Lad. Prices reasonable.

AYRSHIRES—For sale, fine young bulls from Imported dams and sires. E. B. McFarland, 412 Claus Spreckels Bldg., San Francisco.

CALVES RAISED WITHOUT MILK—Cost less than half as much as the milk-raised calves. Write for free book to COULSON CO., Petaluma.

BREEDERS OF RECISTERED SHORTHORNS—Milk strain. Choice young stock for sale. John Lynch Ranch, Box 321, Petaluma, Cal.

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TWO RECISTERED HOLSTEIN BULLS out of A. R. O. dams. Bired by King Mead. Ready for service. J. H. Harlan Co., Woodland, Cal.

REG. GUERNSEY BULLS for sale. Grapewild Farm, Mayhews, Sacramento county, Cal. A. B. Humphrey, Prop., P. O. Box P.

THE McCLOUD RIVER LUMBER CO., McCloud, Cal.—High-class, thoroughbred Holstein bulls for sale. Write for prices and pedigrees.

RECISTERED HOLSTEIN BULLS—Serviceable age. From finest strains. Panama-Pacific Dairy, Sutter Creek, Cal.

RECISTERED HOLSTEIN BULLS—Grandsons of King of the Pontiacs. J. W. Benoit, Route C, Box 172, Modesto, Cal.

JERSEY BULL—Seven months old by Altama Interest on Dolly of Venadera. E. W. Doane, Merced, Cal.

REG. JERSEYS—Herd established 1868. Young bulls from best cows. Ranch Dos Rios, R. 2, Modesto.

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BREEDER OF RECISTERED JERSEY CATTLE. Duroc Swine. Young stock for sale. W. J. Hackett, Ceres, Cal.

RECISTERED HOLSTEINS—A. W. MORRIS & SONS, Corp., Importers and Breeders, Woodland, Cal.

RECISTERED JERSEY BULLS from register of merit cows. D. F. Conant, R. 5, Modesto.

CREAM CUP HERD—Registered Holsteins Pontiac bull calves. M. Holdridge, Modesto, Cal.

WILLOWWOOD JERSEY FARM—Breeder of registered Jerseys. C. G. McFarland, R. 2, Tulare.

PALENDALE HERD of Reg. Holsteins. Young bulls for sale. J. A. Pelanda, Balida, Cal.

SUNNYSIDE HERD—Registered Holstein cattle. R. F. Guerin, R. 3, Box 58, Visalia, Cal.

RECISTERED HOLSTEINS—Auctioneer and Breeder. T. J. Gilkerson, Stratford, Cal.

RECISTERED JERSEYS — Young bulls and bull calves. T. B. Purvine, Petaluma.

A. R. O. RECISTERED HOLSTEIN BULLS for sale. Millbrae Dairy, Millbrae, Cal.

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[Answered by Dr. H. H. Wintringham, Petaluma, Cal.]

Correspondents desiring a reply by mail should send money order for $1.00. No charge is made when questions are answered through this department.

OLD WIRE CUT SWELLS.

To the Editor: We have a 2½-year-old colt that had been cut on wire, just below the fetlock on one of her front feet, about a year ago. It is all healed up now but the foot just above the hoof tends to swell up and cause the animal to limp. We have relieved this twice by the application of "Mustang" liniment, but it is appearing again. Could this be due to some other reason, perhaps such as rheumatism?—J. H., Rio Linda.

[Evidently a forcign substance remained in the wound and is still inside. The animal should be examined by a competent veterinarian and this substance removed, as it will never be right till this is done.]

COW HAS SORE JAW.

To the Editor: I have a seven-months-old colt that has a sore under its jaw, where the halter strap goes, the size of a quarter. There is a scab which is partly mattered. When I feel of the sore there seems to be a lump 2 inches in diameter on the bone. It does not seem to hurt the colt and is not noticcable. The colt's blood does not seem to be in good condition.

[Give this colt ½ oz. Fowler's Solution once a day. Heal up the sore with carbolated vaseline and do not allow anything to rub it till healed.]

SOW DOES NOT BREED.

To the Editor: I have a Duroc Jersey sow that is sixteen months old and has never been with pig. She seems to come in heat regularly and has been bred five times by three different boars: We did not breed her until she was twelve months old. She is in real good condition.—J. L. C., Delano.

[This sow either has a growth in her genital tract or is trouhled with leucorrhea. An examination would be necessary to determine the exact trouble. Try douching her vagina once daily with a 1-1000 solution potassium permanganate.]

MILK FEVER AND MILK FLOW.

To the Editor: Does milk fever lower a cow's production for the whole lactation period? My cow recovered and is in good flesh. How can I prevent milk fever?—D. S. K., Madera.

[Milk fever does not affect the milk flow except for a short time following an attack. It would seem that you had got hold of an unprofitable animal. There are no certain procedures to use to prevent milk fever.]

ABORTER HAS DISCHARGE.

To the Editor: My cow which was due to calve Nov. 6 lost her calf about Oct. 11. The afterbirth did not come away until the sixth day. Since then she has a discharge of a yellowish substance, sometimes a half pint at a time. She has not increased in milk.—R. J. S., Crescent Mills.

[Wash this animal out once daily with a solution of cresolis 1 per cent until the discharge ceases.]

BIG JAW NOT CONTAGIOUS.

To the Editor: My cow, fat and apparently healthy otherwise, has "big jaw." Is it contagious or does it make the meat unfit to eat?—B. K., Oakland.

[Big Jaw or Actinomycosis is not a contagious disease. Under the federal regulations the head alone would be discarded for meat.]

MANGE REMOVES HAIR.

To the Editor: My horse has a sort of mange spreading in spots until all the hair is gone. Dip has little effect.—J. S. Doyle.

[Apply sulphur iodide ointment to the affected parts once daily.]

SHEEP LIKE "SOFT CHESS."

To the Editor: Please give me the name of the grass of which I am sending seed-heads. Sheep like it and it runs out foxtail. Where can I get the seed of it?—J. F. R., Mendocino county.

[Answered by Dr. H. M. Hall, University of California.]

[The grass from Mendocino county is the Soft Chess (Bromus hordeaceus). As you doubtless know, the Soft Chess has taken large areas in California, particularly in the south Coast Ranges, within the last few years. It is there considered to be a very undesirable species since it has crowded out better forage plants and is itself eaten by cattle and horses only when they are actually starved to it. It is probable that sheep would eat it under almost any conditions, as indicated by your correspondent, but it certainly is no grass for other grazing animals. I do not find it listed in the seed catalogs at hand, but one should have no difficulty in harvesting an abundance of seed. That these are viable under our conditions is evidenced by the fact that the grass has spread so rapidly, although it propagates only by seeds.]

STOCK NOTES.

The grand champion stallion at the Exposition bred 65 mares during the season of 1915 at $100 per service, and his owner has been offered $1000 each for 10 of his colts. Pretty good interest on a heavy investment.

Purebred mares sell at $500 up. For $800 to $1000 the buyer can pick animals of very good conformation. Poor purebreds are undesirable at any cost, according to O. H. Brandt of Shellville, Cal.

"Use pure bred sires of good conformation by all means and have all the purebred mares you can." Heat doesn't hurt a heavy draft horse if he is kept thin and busy, according to H. Lefebure of Fairfax, Ia. They have more oppressive heat there than in California, he thinks.

Can't Californians raise draft horses cheaper than Easterners? Why then allow a Californian to go East to buy heavy stock for draft purposes?

Mules are not sought for European cavalry, according to L. M. Monsees, jack breeder of Smithton, Mo. They have too much sense to run into the gunfire, which is the reason they do not run into barbed wire fences very often.

The fame of the Missouri mule is due to its mother. She is a cross of a draft breed onto one of the large trotting breeds. This gives her good size, plenty of room, and quick action which is the reason the slow walking jack begets a fast walking mule of large size.

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CRUDE OIL BEST FOR HOG LICE.
[Written for Pacific Rural Press.]

When you are all run down, and about 20,000 disease bacteria are introduced into your system in a spoonful of water, the disease-fighting corpuscles in your blood are too weary to wage winning battle against the invaders, and you sicken and die. That's the way it was with a Colusa county rancher's hogs which died with cholera probably, but the county veterinarian said the primary cause of death was lice. One would expect that purebred hog growers would think enough of their pocketbooks to keep these tortures off when it is so easy and cheap and profitable to do so.

Crude Oil on the Wallows.—Crude oil in the wallows does the work for Chas. Goodman of Williams. It costs about 5 cents a gallon and a little of it spreads over quite a surface if warmed up so it runs thin. Mr. Goodman's hogs come running when they smell it, they douse themselves in it, and work it into their hides by rubbing against posts. They work it all through the mud and direct the yards as far as crude oil can do it. Mr. Goodman says he knows it is harmless to the pigs; though it is well not to allow them access to very warm oil on cold days. Formerly J. K. Fraser of Stanislaus county used a gallon of sheep dip per week, but this year he turned water into the hog pens once a week during hot weather and poured a gallon of oil on it. The pigs do the rest. He also pours crude oil into the troughs and they lick it up; it never blisters or hurts them.

The Meadowbrook Stock Farm of Merced county dips the pigs about once per ten days. The dipping vat is on runners and is moved from one lot to another. The pigs tumble into the vat head first and when they come up, must swim several feet to the outgoing incline so that every wrinkle is thoroughly soaked.

A concrete pit to dip the hogs was built on the Tweed ranch in Glenn county. But the hogs were so big that it semed impracticable to dip them; and now they are sprayed with 4 ounces sheep dip per 10 gallons water, until they are thoroughly soaked. The partitions, walls, and floors of the hog houses are also sprayed so that the hogs lie down in it. Mr. Tweed says it costs only a quarter as much this way as to dip them, but admits that he cannot do as good a job on the hogs outside. W. C. Chisholm of Sonoma county also sprays for lice, but his work was ineffective. Thus it seems that crude oil in the wallows or on the floors is the cheapest and most satisfactory hog louse remedy.

Mutton Sheep for Small Farms.

SMALL FLOCK ON BIG RANCH.
[Written for Pacific Rural Press.]

The meat problem on a large ranch where many men must be provided with food is satisfactorily solved by Geo. W. Baxter who has 2000 acres, mostly grain, near Le Grand, Merced county. Hogs are too much trouble to suit Mr. Baxter, and he doesn't care much for pork anyway. Sheep are turned loose on green pasture in winter and spring, and have the run of the stubble in the fall, with some hay—just enough have been raised during the past eleven years to supply the tables at home and in the camps.

Last April the first lamb sales were made. The local butcher took fifteen surplus lambs two to three months old at $5 a head. They averaged 56 pounds. Old or poor ewes for breeding are sold or killed. These recently sold for butchering have brought $7-$8.50.

The start was made with three Merino lambs raised on a bottle. No ewes have been bought and there are 50 in the flock now. A purebred Hampshire buck was bought every two years until four years ago when a Shropshire buck was obtained from Bishop Bros. Though no shelter is provided, Mr. Baxter claims 100 per cent of lambs—many twins. They have come as early as November some as late as March. It is desirable for them to come while there is grass for the mothers, since dry hay and dry stubble tend to dry up the milk. Hay for sheep should be cut while green so it will cure in better shape than if sun cured.

Diseases have never troubled this flock. A scabby buck came once, but was swabbed with sheep dip. That fixed it.

Old sheep are sheared twice a year; first in Sept. to get the summer dust and trash out so the spring wool will be clean of everything but easily washable mud. Also bunches of wool do not drag loose as badly as if sheared only once per year. Spring shearing is desirable on account of the hot weather.

"There is plenty of market right here," says Mr. Baxter. "Butchers bother me to death, and neighbors would come after them." They are best at 5 or 6 months when they wean themselves.

"The principal thing is to buy pure bred bucks, no matter what you have to pay for them. Mine cost $25 besides $2.50 express."

SUGGEST DIFFERENT HANDLING OF THE HORSE.

To the Editor: With reference to Geo. E. Wright and his horse in your issue of Oct. 2nd, I wonder what kind of an imagination Mr. Wright has. He says that if he leads the mare a little ways she is all right. Why does he not take a little more time, cinch her lightly, lead her a little way, then tighten the cinch just tight enough to get on without rolling off; lead her a little way further and get on? And in course of time she will forget all about her bad acting. There are but few horses that will not cut up if cinched tight, especially on a cold morning.—**Lover of Horses,** Chico.

To the Editor: In regard to Geo. E. Wright's request for advice about his saddle-horse, I suggest that he make a blind for her 3 in. wide by 21 in. long out of medium harness leather. Run straps through loops at the ends of the blind, long enough to go around the horse's neck, and buckle. When he saddles her it would be best to back her in a fence corner, or better in a wide stall. Pull her blind down over her eyes. Then put the saddle on and cinch it up slowly and not too tight, then get on the horse and raise the blind (which will stay in place like the forepiece of a bridle. It should be made so the throat strap doesn't slip too easily through the loops.

If the mare continues to throw herself, I would advise him to hog-tie and leave her down for a while. She is probably nervous and needs to be handled with patience and care. As for her colts being like her, that depends a great deal on their disposition and how they are handled. —Geo. A. Turner, Morgan Hill.

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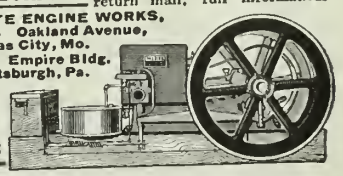
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Kings county's fame as a pure-bred stock - raising community has now attained the stage of text book fame. In a carefully compiled volume, named "California Hog Book," a compilation of information about hogs applied to California condtions, written by W. S. Guilford and from the Pacific Rural Press, appear illustrations of Poland China hog prize winners belonging to M. Bassett and Wm. Bernstein of this city, as a typical purebred type of that breed. Inasmuch as this bids fair to become a real textbook for California nog raisers, the free advertising these local fanciers and this county obtains in its pages will be perpetual and all the more valuable. No textbook on hogs, cows or sheep would be complete nowadays without reference to Kings county's splendid success and example. — Hanford Journal.

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[Written for the Pacific Rural Press by Susan Swaysgood, Pomona.]

POULTRY SHOW NOTES.

This is the time of year when the poultry shows are in evidence. For all members of the home, a good poultry show is an educator. If you have a good flock of any breed whatever, of pure-bred fowls, look them over closely, or get some one who is posted on such matters to look them over for you. Then if there are but a few or even one that excels, enter it in some local show and try it out before a competent judge.

Attend the show and ask questions, look closely at the winners and note how your own birds compare with them. If there is a wide difference, don't get discouraged, but brace up and come back next year with something better. Don't look over the well-groomed birds and then say you have better stuff at home if they had been washed up. That's a cowardly way of doing. People mark him down as being either a fool or a liar, and either of those things are bad. Get your bird in condition. If a cockerel, train him to stand for the judge to poke his stick at him. Quiet birds are always admired best by a judge who has to handle them. Quietness induces a judge to give a closer investigation than if the bird is wild and just plain cross.

Grain makes hard flesh and if the bird is in good health and fair flesh it will need very little conditioning. A little olive oil once a day helps put a gloss on the feathers that nothing else will. In the case of black birds a little sulphur added to the feed helps give a green luster to the feathers that all black fowls should have.

All varieties must have their legs and feet washed with soap and water and a scrub brush, then the dirt must be taken from under the scales with good hardwood toothpicks and the legs polished with a dry cloth and a few drops of oil of pennyroyal. Wash the face, comb, and wattles with a little alcohol and glycerine, band your bird, smooth the feathers over a few times with a silk handkerchief and you are ready to coop him. Of course it goes without saying that your bird is free from lice, because that is the first thing to think about in conditioning. No lousy bird, no sick bird, no scaly-legged bird, and no crippled bird is ever considered in a show as a possible winner.

Don't be afraid to let it be known that you are an amateur; many old fanciers are glad to tell new ones anything in reason, and of course you will not ask anything unreasonable, or anything that would hurt the other man's business.

Turks Go to Neighbors.—What can I do where a neighbor turns his chickens and turkeys on my range. Several of them have gone with his flock and been driven into his coops. Subscriber.

The law would amply protect you, but it would involve a lot of trouble and much bickering and bad blood, and even then you would scarcely be able to prove the claim, unless there were some private mark on the birds. And this is what every farmer should have. For twenty-five cents you can get a chick punch, and by punching the web between the toes, keeping dirt out until it heals up you have a mark that no one can gainsay. This is at once a protection and a means of proving your property that few would dispute. But for plainer means of knowing your stock the leg band is the easiest. Get a bunch of bands. Every bird must have a band on and its number put in a small book kept for that purpose. After fastening the band on in regular fashion put a drop of hot solder over the fastener which will seal it so that the band cannot be taken off.

Brooders for Turkeys.—Can you tell me whether young turks can be brooded in hot water brooders? I have raised chicks in them successfully and would be glad to have any information you can give me.—Mrs. H. A. R.

Yes, I think you can raise young turks in hot water brooders, but you will have to move them to new ground more often than with chicks. The heat should be a little lower than for chicks and keep plenty of sand handy for them. I would put at least two inches of sand in the bottom of the brooder and also some in the run. If the heat affects them at all wrap woolen cloths over the pipes; that will modify the heat that falls over the backs. Plenty of clean fresh sand and a good run of grass will help you. But don't force the poults to stay in the brooder except at night, encourage them to go in to warm up but not to stay too long under a hover. Turks really need more fresh air than anything else I know of and too much heat weakens them.

Thinning Hens.—Some of my hens are over fat. What can I do to take it off?—L.

If the hens are well and are through, or nearly through, the molt, leave well enough alone; as soon as they commence to lay they will lose the surplus fat. But if they are at the beginning of the molt, put them on short rations, cut out the mash and just feed grain. Put a tablespoonful of sulphate of magnesia in a quart of water for two days together and give no other drink. This will reduce them sufficiently to make them more active and they will not accumulate so much fat when they are more active. Molting makes some hens sleepy and lazy; then if they give way to it they get fat, but it is not healthy fat and really should be taken off.

Send in Your Questions.—This department is for your good. Send in your questions, and the management assures me that we shall have space given us for all questions. And in order to benefit many, make the questions as plain as possible. If chickens are sick, say how you feed and care for them; that makes it so much easier to help you and ourselves too, because we take pride in being able to help, and feel badly when our efforts go for naught.

Why Use Trap Nests?

To the Editor: While recently visiting a number of poultry farms I was surprised to learn that very few breeders who formerly used trap nests continued with them, for more than a few reasons. The general opinion of the users seemed to be similar; i. e., that the trap-nested hen of high egg-producing ability could not be relied upon to produce pullets of great egg-producing capacity; and in numerous instances all their pullet progeny proved to be inferior layers. After reading much relating to the value of trap nests these direct adverse reports are confusing. Can you set me right in the matter?—W. W., San Francisco.

[Answered by Geo. H. Croley.]

[The poultry breeders referred to were not thorough in their work of trap-nesting or were lacking in certain knowledge that was essential to their success. To go into this complex subject to any extent would require many times the space that can be used here, but the following brief remarks may start our enquirer in the right direction. Pullets do not become heavy layers simply because their mothers were great egg producers; therefore, the trap nest does little more than prove that the hen that has laid a large number of eggs has the capacity to digest large amounts of egg-making food and that she has a good circulation which insures vigor. She is able to transmit these qualifications for heavy egg production to her young of both sexes if mated to a male whose ancestors have possessed the same qualifications. On the other hand, if the male is from a mother who was able to produce only a limited number of eggs, he will, in nearly all cases, influence the laying capacity of his pullets that come from his mating with a heavy laying hen, causing them to be poor layers while their brother cockerels are almost sure to inherit their mother's qualifications for producing many eggs, to be transmitted by them to their daughters of the next generation.]

FALL HATCHING ENDORSED.

[By Geo. H. Croley, President Federated Poultry Assn. of California.]

For several months past we have been vigorously urging a more extensive hatching of fall chicks. Reports from various parts of the State show that many poultrymen who never before thought of trying it, have undertaken fall hatching on an extensive scale. On the other hand, there are some doubters who write to ask questions or to state that from a viewpoint of profit "it can't be done." This opinion which seems to be more prevalent in southern California than in the northern part of the State, receives a hard jolt in a recent issue of a southern journal, Pacific Poultrycraft; an unknown writer—possibly the editor—his brooder house and more eggs in presented a long argument highly endorsing fall hatching. Reading between the lines, we fancy this writer began his investigations with the idea that fall hatching was not practical in a general way and particularly for the reason that it is assumed that all fowls over eight months of age will molt about the same time in the fall and thus interfere with fall egg production.

The following brief extracts from his article are instructive and demonstrate what effect his investigation had upon his opinion:

"In order to change the period of molt, the hatching season must be changed. . . . A hen will always lay during the month in which she was hatched the year before. . . . An egg farmer in Green Valley gets a 50 per cent egg yield from his year-old hens and a 60 per cent egg yield from his pullets during October and November, and the secret of his success, besides knowing how to run a chicken ranch, lies in the fact that he hatches his laying stock in the fall. . . . At the time he had 1100 smart little chicks in the machines."

In view of the fact that the greater doubt as to the value of fall hatching seems to have existed in the South, this article contains much that is gratifying to us and should be of value to southern readers.

In regard to the date of hatching affecting the time of molt, the following statement by an Hawaiian Island correspondent should furnish food for thought: "In my experience there is no regular molting period in these islands; fowls may molt during any part of the year each individual depending apparently on the time of year during which it was hatched and the ripening or dying of the plumage exciting a natural response on the part of nature to repair the loss of the old feathers with a new coat. No particular portion of the year is known as the molting season."

ALMOND HULLS AND FERTILITY.

To the Editor: Almond hulls placed in a layer 6 inches deep over a patch of Johnson grass last fall killed it off, for no Johnson grass showed up in the spring. A 3-foot cottonwood tree was unfortunate enough to have a stack of almond hulls piled around it and it died in a short time. On the other hand, almond trees are known under which hulls have fallen for year because the nuts were not desirable enough to harvest, yet these trees are still vigorous. I must get rid of my almond hulls. Would it be safe, or of any fertilizing value to spread them out in the orchard in mulch?—D. S., Orland.

[A layer of almond hulls thick enough to shut out the air from the soil or to make the soil sour by its decay would be likely to kill plant roots under it. Considerable amount could of course be worked into the soil without such effects and they would enrich the soil—slowly because their decay is slow. If practicable we should spread in the corral and have the hulls broken by stock tramping and commingled with the manure. This would lessen the danger and hasten decay.—Editor.



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STRONG SHOWING OF SHEEP AND SWINE AT P. P. I. E.

[Written for Pacific Rural Press.]

The greatest swine and sheep show ever held in California is on this week at the Panama-Pacific Exposition grounds, and every farmer should make it a point to spend one or more days there the next week.

In the swine division the show, while largely of a Pacific Coast nature on account of quarantine regulations, is a marvel of quality and size. Particularly is this true of the Berkshire show, which numbers over 300 animals, of a quality said by Eastern authorities to excel in Berkshire quality and size any previous Berkshire Congress show.

Through the loyal support of the American Berkshire Association, the Pacific Coast breeders have responded nobly and their efforts will be long remembered. Their sale, to be held on Saturday, (the day of this issue) promises to be the forerunner of much good, backed as it is by such a strong showing competition.

Poland China breeders, while not so strong in numbers, are holding a show worthy of the breed as are also the Duroc Jersey and Hampshire breeders. The belted hog is particularly strong as compared with previous California shows.

Yorkshires O. I. C.'s and Essex aid in giving the visitor breed viewpoints which will seldom be offered again.

Sheep and goats of all breeds combine in making this the most worth while exhibit afforded the California stockman in late years at least. In numbers the Rambouillets are leaders, the show being made by out-of-state breeders who are truly putting up a show of a superior nature. This show seems to have been less affected in size by the quarantine restrictions than the other breeds of sheep.

In Shropshires California-owned animals are leading in winnings as this is written and they are in condition to have won in much hotter company.

New Zealand breeders with their Correidales, Lincolns and Romey Marsh, together with Hampshires, Oxford Downs and Cotswolds from out of State, add variety and internationalism to the show. A big showing of Angora goats and Toggenburgs complete the show.

HOME-MADE HOG TONIC.

To the Editor: There are certain parties traveling through the country selling a very marvelous tonic for hogs at a marvelous price. Many of the farmers are paying their money for the product when they could procure the ingredients and make the compound themselves at about one-sixth the cost. The recipe for the tonic is given by Dr. Salmon in Farmers' Bulletin No. 24 of the United States Department of Agriculture as follows:

Wood charcoal 1 lb.; sulphur 1 lb.; common salt 2 lbs.; sodium bicarbonate 2 lbs.; sodium hyposulphite 2 lbs.; sodium sulphate 1 lb.; antimony sulphide 1 lb.

These ingredients should be completely pulverized and thoroughly mixed. The dose is a large tablespoonful for each 200 lbs. weight of hogs to be treated. Reader.

Poultry Breeders Directory

Rates in this directory, 3c per word each issue; or if carried weekly for one year, 2½c per word.

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BROWN LEGHORN, WHITE LEGHORN day-old chicks that are well-hatched and strong, from healthy vigorous breeders. SAN JOSE HATCHERY, 373 Meridian Road, San Jose, Cal. "Chicks well hatched are half-raised."

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FOR SALE—95 pairs good working pigeons; Homers, Runts, Maltese, Carneaux. Part pure, part crossed. All large; finished moulting; ready for work. Guaranteed pairs. Squabs white-skinned; average 10 lbs. per doz. Must sell. $1.50 pair; $135 for bunch. C. A. Barnett, R. 1, Calistoga, Cal.

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ORPINGTONS, BUFF AND WHITE, Black Minorcas and Carneux pigeons. Mrs. Susan Swaysgood, Pomona, Cal.

CHICKENS, DUCKS, GEESE, GUINEAS, PEA FOWL. Address Wm. A. French, 545 W. Park St., Stockton, Cal.

WANTED—Farmer and wife to run ranch. Salary $30 and everything found. Box 19. Rural Press.

BARRED ROCK PULLETS for sale. Fairmead Poultry Farm, Fairmead, Cal.

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BOSWORTH'S Imperial Red New Zealand Hares, sold at hard times prices. Nothing better. Geo. M. Bosworth, Geyserville. Cal.

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HART'S BRONZE TURKEYS—Limited number of last season's breeders for sale at reduced prices. Albert M. Hart, Clements. Cal. (Successor to Ed Hart.)

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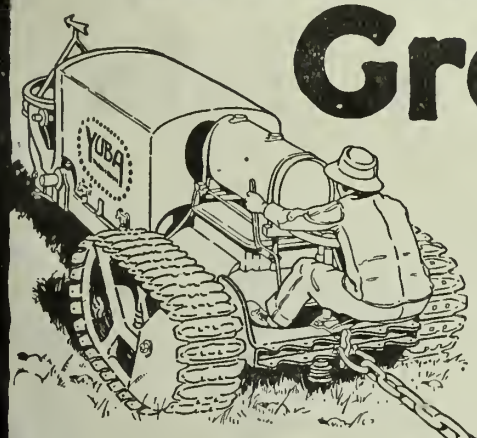
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THE FLORAL SHOW.

If you failed to see the Floral Show in the Horticultural Palace at the Exposition you have certainly missed a treat. Those who did attend carried away memories of the most beautiful gems in nature's realm. What a sight it was to the thousands that poured in and out of the building, and what a setting the show had with the wilderness of ferns, palms, hanging baskets, vines, etc. Words cannot depict it. There were myriads of huge chrysanthemums I heard a man remark that he had measured one and it was seven inches across. Great snowy blossoms, rose-colored, gorgeous yellow, gorgeous combinations of red and yellow—some of them regular "ragged robins" with their fringed petals of all colors and sizes. There were dainty, fragile lilies-of-the valley peeping out of their pale green leaves at the big aristocratic Easter lilies that seemed to have stolen a march on the season, and which were surrounded by quantities of beautiful lacy maiden-hair and ferns —splendid specimens and in their proper setting in this great greenery. People went into ecstacies over the begonias, truly a magnificent display. There were two leading exhibits of these tuberous begonias. Henry Bothin had about sixty varieties of the exquisitely tinted flowers, and the Vallance nursery of Oakland was a close second. The section devoted to them was crowded with throngs admiring and seeking information in regard to them. It was rather late for roses, but nevertheless there were a number of choice and beautiful exhibits that attracted the attention of the rose lovers. Dahlias—you never saw a finer collection of these popular flowers. Great clusters of the lovely rose-colored Delice, the yellow and red "Dacia," the ragged red and gold Geisha and the cactus and peony dahlias. I understood that there were about four hundred varieties displayed by one exhibitor. The display of orchids by J. A. Carboni of Berkeley was certainly beautiful and people were paying them homage on all sides. He had between 90 and 100 of these rare and exquisite plants all in blossom. I was glad to see the names of a number of women among the prize winners. A feature that attracted a great deal of attention was the dining table by Pelicane, Rossi & Co. The centerpiece was made of Ophelia, Prima-donna and American Beauty roses, combined with maiden-hair. At each place was a dainty little blue basket filled with Cecil Bruner roses, maiden hair and tied with pink gauze ribbon—a most artistic setting to the table. It was rather surprising that there was not a larger number of artistic designs. Mrs. R. E. Darbee displayed a beautiful Marie Antoinette vase five feet high, constructed entirely of chrysanthemums and roses, which captured the first prize and Frank R. Clark's reproduction of the Tower of Jewels, made of chrysanthemums and jewels was awarded the second prize. The exhibitors paid a compliment to President Wilson by sending him a huge bouquet of chrysanthemums with the good wishes of the National Fall Flower Show.

GARDEN LORE.

Many flower lovers who can only boast of a few house plants have found that using tepid water in place of cold during the winter season has brought forth most happy results.

The Forest Service of the Department of Agriculture gave away one hundred two-year-old specimens of "Big Trees" on San Francisco Day and Forestry Day at the Exposition. This is part of the plan to distribute several hundred transplants of western yellow pine and sequoias.

This is the month to plant your Holland bulbs — tulips, hyacinths, crocus, jonquils, narcissus, daffodils, etc. The ground should be well enriched and spaded deeply, and if a little coarse sand is mixed with it so much the better, for it will prevent water from standing at the base of the bulb which would soon cause the roots to decay. Tulips, hyacinths and daffodils should be planted about four inches deep and five or six inches apart, and the smaller bulbs two and a half to three inches apart, and about three inches deep. By planting at once you should have a wealth of blossoms in the early spring.

Luther Burbank, who occupies an enviable place in every flower lover's heart on the coast, had the pleasure of entertaining Mr. and Mrs. Thomas A. Edison and Henry Ford at his home in Santa Rosa, the scene of his great accomplishments in the creation of fruits, flowers and shrubs. On leaving the home all the school children of Santa Rosa and a number from Sebastopol, where Mr. Burbank has another experimental farm, met them and made the welkin ring with "I love you, California." It was a pretty tribute to Mr. Burbank and his friends.

FASHION TALKS.

According to Dame Fashion's edict the tight-fitting coats to the waist with full rippling skirts are being ushered in.

The Russian blouse effect with fur collar and cuffs and turban fur-trimmed are not only popular but very effective.

I saw a beautiful little three-cornered hat the other day. It was made of an elegant piece of black satin; folds of the satin making the brim. On the smooth satin crown a medium-sized white pearl bead was placed at intervals, and a black ostrich faney fastened to one side on one of the points completed one of the Frenchiest little hats I have seen in many a day, and it was made by the young lady herself who objected to giving a milliner $18 for a hat not nearly so pretty.

Another pleasing effect was an aeroplane turban of blue velvet with wings of Roman silk.

ALMOST A CAT-ASTROPHY.

The cat clubs are in trouble over the cat show scheduled to come off November 27th at the Exposition. Mrs. Jack Gordon, a member of the Pacific Cat Club, who has written a book about cats, and ought to know what she is talking about when it comes to cats, was appointed judge of all the cats. This "rubbed the fur the wrong way" for the Pacific Cat Club and the California Cat Club had both been aspiring for the honor of having one of their members appointed judge of all the cats. Consequently, Mrs. E. S. Warren of Haywards, member of the California Club, who had also aspired for the honor, and is a recognized authority on cats, and all of her friends have refused to have anything to do with the show. It is hoped by friends on both sides that a truce will be reached by the 27th.

HIS LETTER.

A section foreman on a railroad was ordering a list of supplies. He had completed his letter when he found he was in need of a "frog" for a switch, so his letter ran as follows:

"Dear Sir:—You will please ship me some pick handles, spike mauls, spikes and wrenches.

"Yours truly,
"PAT HOGAN, and a frog."

GUESS AGAIN.

Shronk stopped his motor car at crossroads and yelled to a farmer who lay on a cart of fertilizer:

"Hey, Cornsilk, is this the way to Croyden?"

The farmer raised himself from the fertilizer in astonishment.

"By heck, stranger, how did you know my name was Cornsilk?" he asked.

"I guessed it," said the motorist.

"Then, by heck," said the farmer, as he drove off, "guess your way to Croydon."—Philadelphia Ledger.

The man who won't even let his best girl carry a handbag before they are married is the one who generally expects her a few years later to do all the lugging of the baby.

HOUSEHOLD HINTS.

Oil stains can be dissolved i naphtha, or taken out by soap an cold water.

Meat juice stains must be washe out with lukewarm water, then wit soap.

Cream stains can be washed i cold water, then in warm water an soap.

To clean gilt frames, grate a fresh raw onion, and apply the juice, ful strength, with a soft clean brush t the gilt frames. This not only re moves all former traces of flies, bu will prevent their alighting upon the frame or the picture in it.

To prevent salt in salt bottles fron becoming damp and lumpy, whe filling them put in ten or twelv pieces of rice. This will not com through the holes in the cover o the salt cellars, but will break th lumps and gather the moisture thus the salt is always dry and fine

In making buttonholes in sof muslins it is a very good idea to ru a little paste, made of flour an water, on the wrong side. This wil give a firm surface to work upon and obviates the possibility of cut ting a buttonhole too large. O course, the paste will not discolo the fabric.

Coffee, chocolate, tea and frui stains can be eradicated when quit fresh by spreading the stained par over a bowl and pouring boilin water over the stained part from a height. If they have been in th fabric a short time, the stain should first be sprinkled with borax an then soaked in cold water.

It simplifies the work of th housewife if every article is pu away when she is through using it instead of leaving cans opened

"Let 'er rain"

Whatever the weather *outside*, a good oil heater makes *sunshine within.*



Perfection Oil Heater

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which usually results in a search for the lids, soiled knives, spoons, etc., all of which could be attended to at once, leaving the kitchen neat and the temper serene, which cannot be the case when it is in disorder.

Many people go hobbling through the world, their tempers marred and too irritable to try and be pleasant, when the sole trouble lies in not giving their feet proper attention. If the feet are bathed every night in tepid water into which a little borax or common salt has been sprinkled, there is little likelihood of sensitive, swollen feet, or of hardened or calloused portions on the feet. As the evening foot-bath is a preventive, so is it a cure, for such condition, unless they have reached an extreme stage. If sufferers from soft corns between the toes will bathe their feet daily and sprinkle talcum powder liberally between the toes night and morning, they will find ease and comfort and the corns will soon disappear.

CULINARY SUGGESTIONS.

Almost Thanksgiving and the thought of it suggests mince meat and pumpkin pies, fruit cake and all sorts of good things. The following recipe is for a delicious fruit cake that is even better for keeping a while, so that means your Christmas fruit cake can be made at the same time as your Thanksgiving cake. Take 1 pound of butter, 1 pound dark brown sugar, 10 eggs, 1 pound of flour browned, 2 pounds, of currants, 3 pounds of raisins, 1 gill of New Orleans molasses, 1 gill of brandy, 1 gill of cinnamon, 1 gill of allspice, ½ gill of cloves, ¾ pound of citron, 10 cents worth of candied lemon, 1 glass currant jelly, ½ tablespoonful of baking powder. Place two layers of buttered paper both top and bottom. It makes two large cakes. Bake slowly two and a half hours.

Onions are good for cleaning steel articles that have rusted. Rub the rust spots with a piece of onion and leave for 24 hours. Wash and polish with bath brick dust moistened with turpentine. Wash again in suds and scald with clear water. Knives that have rust spots of long standing should be plunged into an onion and allowed to stand for some time. Finish the cleaning process as above.

An English way of making a fruit pie is to fill a deep buttered baking dish with fresh or stewed fruit, peaches, apricots or plums, and cover with a crust made as follows: Sift together two cupfuls of flour and two teaspoonfuls of baking powder. Rub into it half a cupful of butter and add one egg beaten with a cupful of milk. Spread over the fruit which has been previously sweetened to taste and bake until the crust is done. Serve either hot or cold with cream or any preferred sauce. They omit the under crust which is usually soggy, and retain every particle of juice by inverting a cup in the center of the baking dish, the juice which would otherwise simmer over the edges will be found in the cup, and when removed it holds the pie with the juice.

In Japan there are 196 people for every 40 acres of land, and 256 cows, 6 donkeys and 512 swine for every square mile of land in the kingdom.

MORE AND BETTER FLOWERS FOR CALIFORNIA.

By E. J. Wickson.

Enterprising Californians are earnestly discussing the possibility of maintaining for permanent sources of joy to the people, some of the architectural and horticultural beauties of the Expositions of San Francisco and San Diego. It is to be hoped that generous people will furnish the funds needed for this purpose. Fortunately however there is one element of beauty which has been embodied in these grand displays to an extent and degree of excellence never previously attained, which will perpetuate itself in the hearts of the California people. It is the exposition horticulture. Its lessons will remain active and influential for a full generation at least, and probably for longer, in ways which we cannot foresee or even dream.

It is not too much to claim that John McLaren is not only our greatest horticultural teacher, but he has put forth his instruction in a way to cause his pupils to linger longingly over his object lessons. He has reached the acme in the art of instruction for he has not only awakened a new sense of beauty and apprehension of the elements of taste in the public mind but he has planted the impulse to do the things which afford such lofty and pleasurable emotions. It behooves the people to encourage and promote the growth of the sentiments and impulses which this year's exposition horticulture has awakened, to the end that in both private and public places California may manifest a fitting complement to the uniqueness and variety of our native flora. Some esthetic critics urge that California should be content with the domestication of her own wild plants. It is a narrow view. California should not be content until she has introduced and acclimated all the joy-giving plants of the world, established them in the places which suit each best, in our world-variety of soils and climates, and learned the art of growing each to perfection and of using many in proper association for border and landscape effects.

Of the many significant lessons toward this desirable attainment which exposition horticulture has demonstrated, a few of the simpler ones may be briefly noted:

FIRST: It has shown that there are many better garden and park plants than the ones which are now common in private and public places. This is true both of kinds of plants not now widely known and of varieties of plants which are now common. Every planter should use discrimination in accepting the seeds and slips which generous neighbors offer. They are often inferior from some point of view, and one should be sure to plant for real excellence as manifested in local gardens or as demonstrated by those who are giving their lives in plant improvement. One would not select a wardrobe from his neighbor's clotheslines, indiscriminately. Nor should you plant your garden in that way. Why should your garden be like your neighbor's? Even if it is good, you can do better by not imitating.

SECOND: This does not mean that one should go wild over rare plants which have not been locally tested, although he should always be trying a few. The great effects in the exposition gardens were not made by rare plants, though they may have seemed strange to many visitors. Mr. McLaren would not risk a beauty-creation on the behavior of a rare plant—much as he loves them. He knew his plants and others, who like him live for better plants, knew them also and were charmed with their behavior. Every one should, within the limitations of his conditions, try to know better plants and should get them from trust worthy sources.

THIRD: Many visitors enjoyed a revelation of what can be done with masses of similar plants. In a way, the effects which were produced by massing on a large exposition scale can also be secured in a small garden lay-out. Instead of having a lot of incongruous plants sidling from each like an army of tatterdemallions get plenty of plants and group them effectively. Group shrubs and trees for permanent effects on the same principles as at the expositions: group herbaceous plants for temporary effects also.

FOURTH: Another most important lesson, as worked out in the exposition horticulture, was the demonstration of effective successions. Get plenty of plants with harmonizing colors ready beforehand. Learn the advantage of transplanting. If you do not care to grow your own plants, it is now possible to buy them as reasonably as cabbage and tomato plants and from nearly all kinds of stores, though naturally the florists should have preference in purchasing, and they ought to give you better plants.

FIFTH: The desirability of flowering bulbs has been impressed upon California as never before and the glorious effects secured with them at the expositions were really a revelation to thousands. Flowers can be had from bulbs nearly the whole year in most California places and their employment in succession and in mass effects should be realized. Everyone can have them, for good standard kinds hardly cost as much as roasted chestnuts.

SIXTH: Perhaps no lesson of the expositions is more significant than to plant early and have things ready ahead of time. It is perfectly true to say that California's springtime is in the autumn. The bulbs which filled the exposition grounds with midwinter glory were planted in September and October and continuosly thereafter. The fall announcements of the nursery and seedsmen who are located in all parts of California will soon be ready. They mark the proper time to begin for more and better flowers.

BIBLE TO MIKADO FOR CORONATION GIFT.

The Reverend Doctor Storge, an official of the Presbyterian church on the coast, sailed for Japan in the Sado Maru, to present to Emperor Yoshihito on the date of his coronation, a Bible in commemoration of religious amity. He will represent the American Bible Union.

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to the person who shows us an oil lamp equal to the new *Aladdin* (details of offer given in our circular.) Would we dare make such a challenge if there were the slightest doubt as to merits of the *Aladdin?* We want *one user in each locality* to whom we can refer customers. Be the first and get our special introductory offer under which you get your own lamp FREE for showing it to a few neighbors and sending in their orders. Write quick for 10-DAY ABSOLUTELY FREE TRIAL. Send coupon to nearest office.

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Name .....

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The Markets.

Unless otherwise noted, prices are f. o. b. San Francisco.

San Francisco, Nov. 3, 1915.

WHEAT.

The western market shows a little more firmness, but not sufficient to cause any advance here. Prices, however, are steadily held at the former level.

(Wholesale prices, S. F.)

Cal. Club, ctl.	$1.65	@167½
Northern Bluestem.	1.70	@1.75
Northern Club	1.65	@1.70
Northern Red	1.60	@1.65

BARLEY.

Speculative business has been active, with stiffening prices, and while trading in the spot grain is light, the quotations for both shipping and feed grades show a slight advance.

Shipping, ctl.	$1.30	@1.32½
Choice Feed, ctl.	1.27½	@1.30

OATS.

Supplies have been coming in rather freely of late, and with the principal seed requirements filled, seed grades are quoted lower. Feed is in fair demand, red being unchanged, while white is lower.

Black, ctl.	$1.75	@1.90
Red Feed	1.30	@1.35
Red Seed	1.45	@1.65
White	1.35	@1.40

CORN.

The local market is dull for all varletles. There is a fair demand for the sorghum grains in the country, but the movement here is light, and there is not much call for Eastern.

Eastern yellow, ctl.	$1.65@1.70
Milo Maize	1.45@1.55
Kaffir	1.55@1.65

BEANS.

The recent advance appears to have been due to the need for stock to fill October orders, and since this business has been provided for the demand shows a sharp curtailment, and it looks as if prices will be a little lower for the next few weeks, at least. Quotations have been reduced on bayos, cranberry beans, small whites and pinks, and the general tone is easy. The crop of red kidney beans is very light, and prices in this line are higher.

(On wharf, San Francisco.)

Bayos, per ctl.	$4.50@4.60
Blackeyes	2.90@3.00
Cranberry Beans	4.50@4.60
Horse Beans	2.25@3.00
Small Whites (south)	4.60@4.75
Large Whites	4.90@5.05
Pink	3.70@3.80
Limas (south)	4.50@4.60
Red Kidney	5.50@5.60
Mexican Reds.	4.25@4.50

SEEDS.

There is a fair demand all along the line at present, though the movement is hardly what was expected for this time of year, as many buyers are still waiting for rain.

Alfalfa, per lb.	17	@18 c
Melilotus Alba		30 c
Melilotus, Indica		6 c
Bur Clover		11 c
Oregon Vetch	4¼ @	4½c
Soy Beans		6 c
Canada Peas	5¼ @	6 c
Sudan Grass		40 c

HAY.

Arrivals show a further curtallment, all of it coming from the warehouses, and the car shortage is llmlting shipments to such an extent that there is hardly enough comlng in to take care of requirements. Prices show no quotable change, but all grades are very firm. There is quite a heavy demand in the interior of the state, from which numerous inquiries are received by local dealers. The export movement also continues fairly active.

No. 1 Wheat	$12.00@15.00
do No. 2	10.00@11.50
Tame Oats	10.00@15.00
Wild Oats	8.00@10.50
Alfalfa	10.00@14.00
Stock Hay	6.00@ 8.00
Straw, per bale	.25@ .40

FEEDSTUFFS.

Alfalfa molasses meal has stiffened up a little, while bran is in liberal supply and shows a slight decline. Rolled barley is firm, but not quotably higher.

(Wholesale prices per ton, carload lots, San Francisco.)

Beet Pulp, per ton	$20.00@21.00
Alfalfa Meal, ton	17.00@20.00
Alfalfa Molasses Meal per ton	21.00@22.00
Bran, per ton	25.00@26.00
Oilcake Meal	38.00@39.00
Cocoanut Cake or Meal	23.00@25.00
Cracked Corn	40.00@41.00
Middlings	32.00@33.00
Rolled Barley	26.50@27.50
Rolled Oats	29.50@31.00
Digester Tankage	45.00

VEGETABLES.

There is comparatively little change in the vegetable list this week. Some lines are higher, owing to the seasonable shortage of stock, but many summer vegetables are still coming forward freely. String and lima beans are both higher, and tomatoes show a sharp advance, as present arrivals are believed to constitute about the last of the crop. Eggplant also is considerably higher. Green peppers also are rather firm.

(Wholesale prices, San Francisco.)

String Beans	3	@4 c
Lima Beans	3	@3½c
Peppers, bell, box	35	@50 c
Tomatoes, lug	.75	@1.00
Cucumbers, lug	35	@60 c
Summer Squash, lug	30	@40 c
Green corn, sack	.75	@1.50
Okra, small boxes	40	@65 c
Eggplant, lug	50	@75 c
Celery, doz.	15	@25 c
Artichokes, doz.	20	@35 c

POTATOES AND ONIONS.

The potato market still holds up steadily, with a very good demand for both Delta and Salinas goods. The shipping demand for onions has dropped off again, and prices are lower.

(On Wharf.)

Salinas Burbanks	$1.40@1.55
Delta Burbanks	.90@1.10
Sweet Potatoes, ctl.	1.10@1.25
Onions, ctl.	65 @75 c
Garlic, per lb., new	8 @10 c

POULTRY.

Turkeys are steady, with a fair demand and no heavy offerings. Arrivals of good young stock have been very light for the last few days, and small broilers show a sharp advance, fryers also being higher. Hens also show a little more firmness.

Turkeys, old, lb	18	20 c
do, young	22	@23 c
Broilers, 15 lbs to doz and less, lb	32	@35 c
do, over 15 lbs to dz	22	@24 c
Fryers	20	@21 c
Hens, extra, per lb	13	@15 c
Smooth Young Roosters per lb		18 c
Squabs, per doz		2.00@4.00
Geese, per pair		2.00@2.50
Ducks, young, lb	14	@15 c
Old	12	@13 c
Belgian Hares	8	@ 9 c

BUTTER.

The only change for the week was a ½-c advance on prime firsts. Offerings are running fairly large, and while the demand keeps up well it is not enough to give much firmness to the market.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	27	27	27	27	—	27
Prime Firsts	24½	25	25	25	—	25
Firsts	24	24	24	24	—	24

EGGS.

Supplies are coming in quite slowly, as usual at this season, and the last few days have brought a steady advance, extras being 2½c above the last quotation, while firsts show a corresponding advance.

	Thu.	Fri.	Sat.	Mon.	Tu.	Wed.
Extras	49	49½	49	50	—	51
Sel. Pullets	40	40	40	40	—	41½

CHEESE.

Prices show no change whatever during the last week, prices being kept up to a firm level by continued light offerings, while the demand is not especially active.

Y. A.'s, fancy	18 c
Fancy Calif. flats, per lb	17 c
Calif. Cheddar flats, per lb	16½c
Monterey Cheese	15@17 c

LOS ANGELES DAIRY PRICES.

	Wed.	Thu.	Fri.	Sat.	Mon.	Tu.
Butter	26	26	26	26	26	26
Eggs	43	43	43	43	43	43
Cheese	14½	14½	14½	14½	14½	14½

DECIDUOUS FRUITS.

The fruit market is beginning to narrow down to winter dimensions, several items being taken from the list, though with favorable weather there is still a good assortment coming in. Bartlett pears are about cleaned up, and winter nellis are bringing a little better for first-class stock. Peaches also are practically out of the market, and there are not enough watermelons to be worth quoting. The market is still well supplied with grapes, which show little change in price. They find a good demand. Cranberries are a little firmer under a good demand, other berries being unchanged. Figs are scarce and higher, and apples are pretty steadily held, with northern stock bringing high prices. Quinces are easy, while pomegranates show a slight advance. Cantaloupes are higher, with the crop about over, while the inside figure on casabas is lower.

(Sales in S. F. Market.)

Cranberries, Eastern. bbl.	$8.25@9.75
Huckleberries, lb.	5 @ 8 c
Strawberries, chest	4.00@6.50
Figs, bx, double layer	.75@1.00
Pears, Winter Nellis	.75@1.25
Apples, Newtown	.75@1.00
Belleflowers	.75@1.00
Quinces, box	30 @75 c
Pomegranates, box	.75@1.25
Persimmons, box	.70@1.00
Casabas, doz	.60@1.50
Cantaloupes, lug	50 @75 c
Grapes:	
Malaga, lugs	.85@1.10
Tokay, lug	75 @90 c
Muscats, lug	1.00@1.25
Black, lug	65 @75 c
Cornichon	.85@1.00

DRIED FRUITS.

Those who attributed the firmness in dried fruits to a temporary shortage for October shipments were evidently mistaken, since most varieties remain strong, with some further advances, notwithstanding the delay in shipments due to the blockade of the Panama Canal. There has been a stronger demand for apples, resulting in a sharp advance, as there is a very light pack in the East. Apricots again are higher, with very little left on the Coast; and white figs are higher, with a very firm market for all kinds, owing to a close cleanup of supplies. There has been a very heavy European demand for prunes, resulting also in a stronger movement in this country; and with the growers standing firmly together, the price was advanced to 5c soon after our last report went in. Nor was this the limit: some local packers are now quoting as high as 5½c, and there is nothing to indicate that prices will be lower in the near future, as supplies have been greatly curtailed. As for peaches, packers offer little encouragement; though it may be pointed out that some large export shipments have been made recently, which materially reduced the supply in the state, and the lack of strength may be due as much to lack of effective co-operation as to fundamental market conditions. There seems to be very little demand at the moment, but some advance is expected as soon as the trade begins to buy. The New York Journal of Commerce says:

"Practically all Pacific Coast packers report a stronger tendency predominating in the market for future shipment Santa Clara 1915 pack prunes. Packers are holding Santa Clara 40s to 60s, inclusive, at a 4¾c bulk basis f. o. b. common coast shipping points, with stocks of straight 40s held from 4⅞ to 5c, according to packers.

"At these prices there is reported to be very light buying in progress on the part of the New York operators. On the Coast several packers who were said to have been caught short on supplies with which to meet their future contract obligations were reported to be purchasing from the growers at 5c basis irrespective of size.

"Choice California apricots for future shipment continue to maintain a strong tendency, with packers showing no inclination to shade prices. Sales are reported of this grade at 8⅞c f. o. b. comomn Coast shipping points.

"Fancy seeded California raisins in one-pound cartons are held at 8½c, a slight increase over previous quotations. Supplies are said to be larger than for several days, though still greatly restricted."

(Prices to growers.)

Apples	7 @9 c
Apricots, per lb	8½ @9½c
Figs, white	4½ @5 c
Black	2 @3 c
Callmyrna	5½ @6 c
Prunes	5 @5½c
Peaches	2½ @3 c
Pears	4 @5 c

San Jose prices to growers, 1915 crop:

Apricots	8½ @9 c
Prunes subject to dist	4¾ @5½c
Peaches	2¼ @2¾c
Pears	5 @6 c

CITRUS FRUITS.

Prices are still good on the eastern auctions for both oranges and lemons. At New York on Monday, Nov. 1st, seventeen cars of valencias sold averaging from $2.25 up to $3 per box. Lemons averaged from $2.55 up to $4.05 per box. Chicago the same day paid on averages from $5.25 to $5.75 for oranges and $3.25 to $3.75 for lemons.

Oct. 31st was the last day of the citrus year of 1914-15. While we haven't the exact shipments for the last few days, yet the figures here given are very close. Orange shipments for the season from the three districts in carloads were as follows:

	Oranges	Lemons
Southern California	33,317	6,843
Tulare district	5,667	222
Butte county	630	2
	39,614	7,067

For the 1913-14 season they were as follows:

Southern California	39,024	2,954
Tulare district	5,878	73
Butte district	404	5
	45,306	3,032

While the early part of the citrus crop sold at low prices the latter part of the year good average prices were received, and the outlook for the new year is much better than it was a year ago.

Valencia oranges are getting a little scarcer, and San Francisco prices have been marked up in sympathy with the market at shipping points. Lemons are easier, and a little new grapefruit is moving at $3.25 to $3.50, but old crop still brings high prices.

(Wholesale prices, San Francisco.)

Oranges, Valencias, bx	$3.75@4.75
Grapefruit, seedless, bx.	4.50@5.00
Fancy	5.00@6.00
Lemons, box	1.50@3.25

NUTS.

There is little new to report in this line. There still seem to be plenty of almonds, though most of the desirable stock is controlled by the association and steadily held, and is gradually moving off. Walnuts are quite firm, the southern crop being well cleaned up, and no large offerings are coming this way.

(Exchange prices, f. o. b. common shipping point.)

Almonds (1915):	
Nonpareil	15 c
IXL	13½c
Ne Plus Ultra	13 c
Drakes	11 c
Languedocs	11 c
Walnuts (1915):	
Budded, per lb	17 c
No. 1	13.6c
No. 2	10.6c
Jumbo	16.6c

HONEY.

Values stand as before, but there is no great firmness to the market. Buying for export is over for the present, and considerable stock is coming in, with only a moderate local demand. A car of attractive comb honey arrived recently from Nevada and is moving off gradually.

Water White, comb	11	@13 c
Amber	10	@11 c
Water White, extracted	6	@ 7 c
Light Amber	3	@ 4 c
Dark	2½	@ 3 c

LIVE STOCK.

Very little quotable change has occurred in the livestock and meat market of late. Hogs are firm and slightly higher under a good demand, but otherwise there seems to be no pronounced tendency at the moment, demand and supply about balancing.

(Delivered S. F.)

Steers, No. 1	6¼ @6½c
No. 2	6 @6¼c

Cows and Heifers, No. 1	5½ @5¾c
No. 2	5¼ @5½c
Bulls and stags	4 @5 c
Calves: light	8 c
Medium	7½c
Heavy	6 @7 c
Hogs, grain-fed:	
200 to 300 lbs	6¼c
100 to 200 lbs	6¾c
Prime Wethers	6 @6¼c
Ewes	4¾ @5 c
Suckling lambs	7 7¼c

DRESSED MEATS.

Steers	10 @10½c
Veals, large	12½ @13 c
Small	14 @15 c
Prime Wethers	11 @11½c
Ewes	10½ @11 c
Suckling Lambs	12 @13 c
Hogs	11 @12½c

WOOL.

The market continues fairly active, with good sized sales in various quarters. The average price received at the fall sale in Cloverdale a few days ago was 15c, against 10c last year.

Spring clip:

Humboldt and Mendocino	18@23 c
Sacramento Valley, lb	15@16 c
Southern, year's staple	13@14 c
Six months	10@12½c
Fall clip:	
San Joaquin (defective)	7@10 c
Northern "	9@12½c
Southern mountain, free	13@14 c
Tehama Co., free	12@13½c

HORSES.

A large lot of Nevada horses, including some rather heavy stock of popular breeds, was brought in this week, and sold off readily at about the same range of prices as has prevailed for some time past. Nothing of special interest has developed, the local demand being just fair for desirable stock, while miscellaneous offerings received little attention. (Approximate values at San Francisco, based on auction sales.)

Drafters, 1700 lbs and up	$200@250
Drafters, 1550 to 1650	150@200
Chunks, 1350 to 1500 lbs	150@175
Wagon horses, 1050 to 1350 lbs	110@150
Green Mountain range horses, 950 to 1200 lbs.	20@ 75
Farm Workers	50@100

HOPS.

Sacramento	8@10 c
Sendocino	9@10½c
Oregon	9@11 c

SPECIAL GRAPE MARKET REPORT.

By J. L. Nagle.

Sacramento, Cal., Nov. 1, 1915.

This week's shipments practically wind up the Tokay season for the late. Some districts have already completed their shipments; but the Lodi district, which considerably underestimated its crop, still has a few cars remaining.

Emperors in crates are now moving and there is a very active demand which will probably exceed the supply, and if the market remains as active for the next two weeks as it is at present, grapes now in storage should bring fancy prices for the holiday trade.

Taking all things into consideration and even in view of the fact that the total shipment of grapes has been in excess of last season, we consider that the California grape growers have enjoyed one of the most successful seasons in their history.

The following prices have ruled for the week:

New York—Malaga grapes averaged $1.05; Cornichon, $1.12; Emperor, $1.02; Tokay, $1.15; Winter Bellis Pears, $2.52; B. Clairgeau, $2.25.

Chicago—Tokay Grapes, $1.19; Cornichon, $1.16; Malagas, $1.12.

Total shipments to date, 15,363 cars; total shipments same date, 1914, 15,195 cars.

Highest Market Price
and Prompt Remittance
for dried fruits, nuts, honey, beeswax, beans, etc.
Send samples or ship direct to
J. E. LAWRENCE,
326 Clay Street, San Francisco.

WEEKLY BUTTER AVERAGES.
Cents per pound for Extras.

Week Ending	San Francisco 1914	San Francisco 1915	Los Angeles 1914	Los Angeles 1915
Jan. 2	31.12	28.60		
" 9	30.91	25.33	29.80	26.00
" 16	28.13	27.50	28.08	26.83
" 23	27.91	30.66	29.33	30.66
" 30	31.66	28.66	31.00	28.00
Feb. 6	32.66	26.68	30.62	26.80
" 13	28.50	26.74	26.40	27.00
" 20	26.33	29.00	26.00	27.16
" 27	25.30	29.10	25.25	27.00
March 6	23.25	27.00	23.00	25.25
" 13	22.91	24.66	21.83	24.00
" 20	22.58	23.00	21.40	22.50
" 27	22.66	22.91	22.00	23.00
Apr. 3	23.08	23.00	23.00	22.33
" 10	23.33	23.08	24.00	22.00
" 17	22.91	23.00	23.00	22.00
" 24	22.91	23.00	23.00	22.00
May 1	23.08	23.08	23.00	22.00
" 8	23.33	23.00	24.08	23.08
" 15	23.91	23.58	24.00	23.00
" 22	24.08	23.58	24.50	23.00
" 29	24.08	23.50	24.66	23.00
June 5	24.00	23.90	25.00	23.00
" 12	24.00	24.08	25.00	23.83
" 19	24.08	25.16	25.00	26.00
" 26	24.00	25.50	25.00	26.16
July 3	24.00	25.83	25.00	26.16
" 10	24.50	26.21	25.00	26.00
" 17	25.66	26.58	25.83	26.00
" 24	28.66	25.41	29.20	25.50
" 31	23.83	27.00	24.40	26.00
Aug. 7	25.16	27.00	23.90	26.00
" 14	26.16	27.00	23.83	26.00
" 21	28.33	27.50	26.66	26.00
" 28	29.40	28.00	28.00	26.00
Sept. 4	31.50	28.00	28.83	26.00
" 11	31.87	28.00	28.66	26.00
" 18	30.50	27.00	27.40	26.00
" 25	29.58	26.50	26.16	26.00
Oct. 2	28.41	25.91	27.50	26.00
" 9	29.00	26.91	30.60	26.00
" 16	30.10	27.00	31.00	26.00
" 23	31.66		31.00	
" 30	30.41		30.00	
Nov. 6	30.20		30.16	
" 13	30.42		32.66	
" 20	33.16		35.80	
" 27	33.10		35.25	
Dec. 4	31.08		30.83	
" 11	30.41		30.00	
" 18	29.33		30.00	
" 25	29.42		30.00	

WEEKLY EGG AVERAGES.
Cents per dozen for Extras.

Week Ending	San Francisco 1914	San Francisco 1915	Los Angeles 1914	Los Angeles 1915
Jan. 2	47.00	38.50	46.50	42.00
" 9	44.33	32.66	39.41	35.16
" 16	41.33	31.00	42.00	30.33
" 23	36.66	30.50	38.00	30.00
" 30	35.66	28.16	37.00	26.66
Feb. 6	35.50	23.33	37.00	23.75
" 13	27.40	23.00	26.66	25.10
" 20	22.16	23.60	22.00	23.58
" 27	20.80	21.40	19.60	20.80
March 6	20.83	20.50	20.00	19.00
" 13	21.00	20.66	20.00	19.00
" 20	20.66	21.00	20.00	19.66
" 27	19.50	20.83	20.00	18.50
April 3	19.50	21.66	21.50	20.00
" 10	21.66	21.66	22.00	20.08
" 17	21.66	22.00	21.83	23.08
" 24	22.00	21.80	21.83	22.25
May 1	23.50	26.16	23.50	22.00
" 8	23.00	23.33	23.33	22.00
" 15	23.00	23.16	23.83	22.00
" 22	22.50	23.75	23.00	21.91
" 29	22.60	23.08	23.00	21.83
June 5	23.50	22.50	23.60	20.70
" 12	25.00	22.00	25.00	21.00
" 19	24.66	22.00	25.83	20.00
" 26	24.50	23.33	26.66	23.83
July 3	24.00	23.83	25.66	22.50
" 10	26.16	25.50	25.60	25.00
" 17	27.66	24.83	27.00	24.66
" 24	28.66	25.41	29.20	25.50
" 31	28.60	25.80	29.40	25.80
Aug. 7	30.22	30.50	30.60	28.00
" 14	33.00	31.16	33.60	28.66
" 21	34.22	31.25	34.20	30.16
" 28	34.50	30.58	33.80	29.16
Sept. 4	36.00	30.08	34.20	30.16
" 11	38.50	34.33	35.20	31.66
" 18	40.50	37.08	35.00	33.37
" 25	42.50	38.66	35.50	34.66
Oct. 2	40.83	40.08	36.00	37.33
" 9	41.66	40.08	39.00	38.00
" 16	46.30	45.50	48.80	40.00
" 23	49.66		43.16	
" 30	51.25		42.00	
Nov. 6	51.70		40.00	
" 13	49.50		41.60	
" 20	47.66		47.33	
" 27	47.40		45.60	
Dec. 4	44.25		42.66	
" 11	40.08		38.33	
" 18	45.41		38.33	
" 25	52.83		43.60	

If you want to make money, ship your
Poultry, Eggs and Butter
to
Oregon Produce Company, Inc.
140-144 Clay Street
San Francisco

Publisher's Dep't.

Prof. Wickson is at work compiling volume two of "California Agriculture Questions Answered," which he hopes to have ready for the printers in another month. The first volume of this work was issued less than two years ago and has met with popular favor, so much so that this new edition is necessary. The new volume will contain an entirely new lot of questions and answers, so that those who have a copy of the first volume will find as much of value in the second as the party who secures the last only. The size of the book, number of pages and general style will be same as the first and the price will be $1.50.

Readers will notice that beginning with last week the Rural Press is printing a series of articles on ornamental horticulture. We trust these articles will help our readers in their work of beautifying their home grounds, roadways, etc. As a supplement to these articles we would suggest that those who can afford to should send for a copy of "California Garden Flowers" by E. J. Wickson. Price $1.50 postpaid, this office. The book will help you in your work in the garden.

Only 189 new subscribers added to our list during the past week. We did mighty well considering the fact that some of the reports of the men were not received in time to be counted.

The California Hydraulic Engineering & Supply Co. of Los Angeles has moved to 420 East Third street, where they are now ready to fill your orders on short notice.

Next week's issue will tell all about the fine lot of swine and sheep now exhibited at the Panama Exposition.

J. H. George of Red Bluff has purchased 1000 lambs from John Finnell of the same place.

Frank Meacham of Petaluma recently purchased a Red Polled calf which won first prize at the recent stock show at the Exposition.

If the few Almond growers who are now shipping their almonds to San Francisco on consignment would support the
California Almond Growers Exchange
by becoming members, a better market would be insured for all.
CALIFORNIA ALMOND GROWERS EXCHANGE
311 CALIFORNIA ST.
SAN FRANCISCO.

Mr. H. A. Clark, a well known fruit grower of Saratoga, is shortening the road between producer and consumer. He is marketing a considerable proportion of his crop direct. He packs his product in tenpound paper sacks that are then enclosed in cloth sacks. For prunes, orchard run, unprocessed, he gets 11 cents per pound f. o. b. Saratoga and for apricots in the same condition 13½ cents. He gets in touch with his trade through cards at the Santa Clara county exhibit at the Exposition and through advertising in his old home town in the east.

For bloat, tap a sheep or cow in the left flank, well forward. Keep a trocar handy and know how to use it.

Moldy feed of any kind may be dangerous, especially moldy cornstalks or any corn products.

To date, Oct. 26, Redlands has shipped 4605 carloads of oranges, or 261 more than the previous year.

California Poultry Practice

WRITTEN TO TEACH BETTER POULTRY METHODS ON THE FARM.
By Mrs. Susan Swaysgood.

Every poultry raiser of California should have this book. It is very practical and will help make your business profitable. In the preface of the book the author says:

"This book is not an accident; it is born of a desire to help others to avoid the stumbling-blocks in the poultry business, and at the request of many readers of The Pacific Rural Press, and other papers.

"With forty-two years of experience with poultry it is expected that I have learned a few things about it; it's a poor business that does not teach lessons in that length of time. Don't you think so?

"There are books, yes, books without number, on poultry matters, but many of them are mostly theory. This book tells you just what I have done and how I would do it.

"'It is a book of action, and it is action that counts these days. We have to act in the living present if we want to live. I want to live and I want others to live, too, and as I have learned these things by experience it is fitting that I should tell others how to obtain results without paying such a big price for the experience.

"The things told you in this book are original, unorthodox, but strictly practical; and if you will read and then heed, you will be well satisfied that the author has given you your money's worth. California is an empire in itself, and I am sure there are enough men and women engaged in the poultry business, or wanting to get into it, to call for a milion copies of this book, though its only claim is that it is needed."

The book contains 157 pages, besides illustrations. The 45 chapters cover every phase of poultry culture from eggs to hens, and from hens to market. Feeding, housing and parasites.

Price, cloth-bound, postpaid, $1.00.

Pacific Rural Press, Publishers
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For All Farm Buildings

the matter of roofing is of first importance. It does not pay to skimp when you are building for permanence.

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—the first smooth-surfaced, pliable, ready-to-lay roofing. Hundreds of **RU-BER-OID** roofs put on more than 20 years ago are still as serviceable as when laid. The long life of **RU-BER-OID** makes it *cheaper by the year.*

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RU-BER-OID roofing is always uniform in quality. Chemists allow no variation from the original formula.

Colored RU-BER-OID (Ka-lor-oid)

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In a recent opinion, the U. S. Court of Appeals in Chicago holds that the public has long recognized the trade name "Ruberoid" or "Ru-ber-oid" as our trade name and as indicating roofing of our manufacture, and it enjoins imitators from using the word "Rubberoid or any similar name as the trade name or brand" of their roofing, as unfair competition in business.

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Building a Poultry House gives working plans for the best types of structures.

Roofing a Home shows how to secure an attractive, permanent roof.

Building a Bungalow tells what to do and how to avoid costly mistakes.

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Artistic Roofs illustrates attractive effects secured with never fading Colored RU-BER-OID (Ka-lor-oid).

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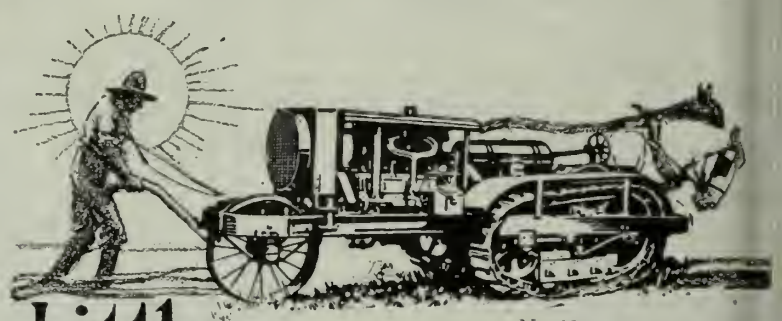
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Little Stories of Success

No. 10

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E. A. Brim of Williams says: "Having used a Caterpillar almost 3 years, doing all kinds of work, I find that the expense of this work is at least one-half less than doing the same work with teams."

Cy Hermle, Winters, says: "I figure the Caterpillar is half cheaper than mules, counting all wear and tear."

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